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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01000

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SECTION 01000

GENERAL CONTRACT REQUIREMENTS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

CODE OF FEDERAL REGULATIONS (CFR)

19 CFR 24.24	Harbor Maintenance Fee
33 CFR 156	Oil and Hazardous Material Transfer Operations

ENGINEERING MANUALS (EM)

EM 385-1-1	(1996) U.S. Army Corps of Engineers Safety and Health Requirements Manual
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1.2 RIGHTS-OF-WAY

a. The rights-of-way for the work to be constructed under this contract, within the limits indicated on the drawings, will be provided by the Government without cost to the Contractor. If these rights-of-way are used by the Contractor, he shall, at his own expense, do all work necessary to make such rights-of-way suitable for traveling to and from the worksite. Upon completion of the Contractor's work, any such rights-of-way furnished by the Government shall be left in a condition satisfactory to the Contracting Officer.

b. When so directed by the Contracting Officer, the Contractor shall, without expense to the Government and at any time during the progress of the work when it is not being actively used for contract operations, promptly vacate and clean up any part of the Government grounds or rights-of-way that have been allotted to or have been in use by the Contractor.

c. The Contractor shall not obstruct any existing roads on lands controlled by the United States except with written permission of the Contracting Officer and shall maintain such roads in as good condition as exists at the time of commencement of work under this contract.

d. The Contractor shall procure, without expense to the Government, all additional lands, access roads, or rights-of-way necessary for his use in the performance of the work or as required by his method of operation. The Contractor shall submit written evidence to the Contracting Officer that he has obtained the rights-of-way from the property owners. The written evidence shall consist of an authenticated copy of the conveyance under which the Contractor acquired such rights-of-way, prepared and executed in accordance with the laws of the State in which the land is located. The Contractor

shall also obtain from the owners a release for the Government for any damages which may result from his use of such rights-of-way. The written conveyance and release shall be provided to the Government prior to use of Contractor obtained additional lands, access roads, or rights-of-way. If temporary rights-of-way are obtained by the Contractor the period of time for those rights shall coincide with Section 00800 SPECIAL CONTRACT REQUIREMENTS paragraph COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK, plus a reasonable time for any extension granted for the completion of the work. Any agreements or permits with levee boards, counties, parishes, municipalities, or other political subdivisions for moving material and equipment will be the responsibility of the Contractor and will be obtained at no expense to the Government. Any delays to the Contractor resulting from delays in procuring such additional lands, access roads, rights-of-way, or permits for moving material and equipment for his work under this contract will not be a basis for any claim for increase in the cost of this contract. The Contractor shall make his own investigations to determine the conditions, restrictions and difficulties which may be encountered in acquiring such In addition, the Contractor shall be solely liable for any and all damages and claims of any nature whatsoever arising from or growing out of the acquisition and use of rights-of-way, etc. other than those furnished by the Government.

e. Notwithstanding any language or drawings to the contrary in this contract, the United States will not provide access or rights-of-way over any public lands and will not be responsible for acquiring such.

f. The Contractor shall repair at no expense to the Government, any and all damage to any existing roads when such damage is a result of his operations under this contract. (CEMVK-OC, 1989)

1.3 SUPPLEMENT TO RIGHTS-OF-WAY CLAUSE

The contractor shall contact Mr. A. S. Ballard, Jr. at (601)429-6445 prior to commencement of construction at the Coldwater River site.

1.4 PRECONSTRUCTION CONFERENCE

a. A preconstruction conference will be arranged by the Area Engineer as soon after contract award as possible, and the conference will be conducted before work is allowed to commence. The Area Engineer will notify the Contractor of the time, date, and location for the meeting. At this conference, the Contractor will be oriented with respect to contract administration procedures, lines of authority, and construction matters. All known subcontractors performing at least 20 percent of the contract are required to attend this conference. Additional conferences may be established by the Area Engineer for any major subcontractors unknown at the time of the initial conference.

b. Submission by the Contractor of the items listed below will determine the date of the conference. The following items shall be submitted to the Area Engineer for review at least seven (7) calendar days prior to the preconstruction conference:

- (1) Safety Plan
- (2) Environmental Protection Plan
- (3) Quality Control Plan

c. The Contractor shall bring to this conference, in completed form the following:

- (1) Letter of superintendent appointment and authority
- (2) List of subcontractors

d. The Contractor should bring to this conference, or at least be prepared to discuss, the following:

- (1) Submittal register
- (2) Progress chart or Network Analysis System (as applicable)

e. Minutes of this conference will be taken and prepared by the Area Engineer and sent to the Contractor for his concurrence and signature.

1.5 SUBMITTAL OF SUBCONTRACTING PLAN

a. This paragraph does not apply to small business concerns.

b. After bid opening, and within 7 days, the apparent low bidder, upon telephone notification by the Small and Disadvantaged Business Utilization Specialist, shall submit a Small and Disadvantaged Business Subcontracting Plan. The plan shall be submitted in accordance with Contract Clauses UTILIZATION OF SMALL BUSINESS CONCERNS AND SMALL DISADVANTAGED BUSINESS CONCERNS and SMALL BUSINESS AND SMALL DISADVANTAGED BUSINESS SUBCONTRACTING PLAN, ALTERNATE 1, and the person responsible for administering the plan shall be named in paragraph AGENT FOR SUBMITTING SMALL BUSINESS AND BUSINESS AND SMALL DISADVANTAGED BUSINESS SUBCONTRACTING PLAN of the Representations and Certifications.

1.6 NOTIFICATION OF AREA ENGINEER BEFORE BEGINNING WORK

At least 7 days before beginning work, the Contractor shall notify Mr. Gordon O. Inman, Area Engineer, Greenwood Area Office, P.O. Box 946, Greenwood, Mississippi 38935-0946, Telephone (601) 453-5531.

1.7 ORDER OF WORK

The work shall be carried out in accordance with the work Progress Chart (Schedule) required by paragraph "(a)" of the Contract Clause SCHEDULE FOR CONSTRUCTION CONTRACTS.

1.8 PROGRESS CHART

The progress chart required by provisions of paragraph (a) of the Contract Clause SCHEDULE FOR CONSTRUCTION CONTRACTS, shall be prepared on ENG FORM 2454, copies of which will be furnished to the Contractor by the Government. Six (6) COPIES OF THE WORK SCHEDULE DIAGRAM WILL BE REQUIRED.

1.9 DESIGNATED BILLING OFFICE

The designated billing office for this contract shall be Greenwood Area Office, P.O. Box 946, Greenwood, Mississippi 38935-0946.

1.10 PAYMENT INVOICES

(a) The Federal Acquisition Regulation requires that the "REMIT TO" address on the invoice match the "REMIT TO" address on the contract or a proper notice of assignment. The Payment Office will verify a match of the "REMIT TO" address in the contract and contractor's invoice prior to payment. If the addresses do not match, the invoice will be determined improper and returned to the contractor for correction and resubmission. If an invoice is improperly returned, the original invoice receipt date shall be used as the basis for determining interest to be paid in accordance with the PROMPT PAYMENT ACT.

(b) Among other things, the Contract Clause PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS requires that a proper invoice for payment include substantiation of the amounts requested. As required in Office of Management and Budget, Circular A-125 (Rev.), PROMPT PAYMENT, dated December 12, 1989, substantiation of the amount requested for progress payments under construction contracts includes the following:

(1) An itemization of the amounts requested related to the various elements of work required by the contract covered by the payment request;

(2) A listing of the amount included for work performed by each subcontractor under the contract;

(3) A listing of the total amount of each subcontract under the contract;

(4) A listing of the amounts previously paid to each such subcontractor under the contract; and,

(5) Additional supporting data in a form and detail required by the contracting officer.

(c) Failure to include the above information in a contractor's invoice will result in the invoice being considered defective under the provisions of the PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS clause of the contract, and it will be returned to the contractor for correction and resubmission. (CEMVK-OC, 1997)

1.11 TEMPORARY PROJECT FENCING

Temporary project fencing as required by Section 4, "Temporary Facilities", paragraph 04.A.04 of EM 385-1-1, "Safety and Health Requirements Manual", dated 3 September 1996, is not required on this project.

1.12 AS BUILT DRAWINGS

This supplements the Contract Clause SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION.

As-Built Contract Drawings. The Contractor shall maintain two (2) full-size sets of blue-line prints of the contract drawings depicting in red a record of as-built conditions. These drawings shall be maintained in current condition at all times during the entire contract period. The drawings shall be updated daily by the Contractor showing all changes from the contract plans which are made in the work, additional information which might be uncovered in the course of construction, and information for future construction reference (such

as debris disposed by burying). This information shall be recorded on the prints accurately and neatly by means of details and notes. Each month, prior to submitting a request for progress payment, the Contractor shall review the as-built drawings with the Contracting Officer, and the Contractor shall certify that the as-built drawings are accurate and up-to-date before progress payment is made. The Contractor shall deliver to the Contracting Officer two (2) complete sets of the as-built marked prints at the time of the final inspection of the project. The as-built drawings shall be identified by entering the words "AS-BUILT DRAWINGS" in letters at least 3/16" high, placed below each title block.

1.13 PROJECT SIGN (APR 1991)

The Contractor shall fabricate, erect and maintain one sign for project identification. The sign shall be displayed and positioned for reading by passing viewers. The exact location is subject to Contracting Officer's approval. Information for the right side of the project sign shall be as follows:

Title: DEMONSTRATION EROSION CONTROL

Project: BANK STABILIZATION, COLDWATER
RIVER AND SHORT FORK CREEK
(BS-99-02)

Contract No: _____

Contractor: (Contractor's name and city)

The project identification sign shall meet the requirements specified in the U.S. Army Corps of Engineers Sign (USACES) Standards Manual, EP 310-1-6a and EP 310-1-6b. The Contractor can purchase the USACES standards manual from:

Corps of Engineers Publications Department
2803 52nd Avenue
Hyattsville, Maryland 20781

The publications department may be reached at telephone number (301) 436-2065. The price of the manual is \$65.00 which may change without notice.

A copy of the sign standards manual is available for review at the office of the Vicksburg District Sign Program Manager and questions concerning manufacture and installation of the project identification sign may be addressed to:

Vicksburg District Sign Program Manager (Lawran Richter)
ATTN: CEMVK-OD-MN
4155 Clay Street
Vicksburg, MS 39183-3435
Telephone: (601) 631-5287

1.14 MINIMUM REQUIRED INSURANCE

The following paragraph is applicable if the services involved are performed on a Government Installation. Government Installation is defined

as property where the Government holds by fee simple title, by construction rights-of-way, or perpetual easement, etc., an interest in real property. See Contract Clause INSURANCE-WORK ON A GOVERNMENT INSTALLATION.

a. Workmen's Compensation and Employer's Liability Insurance. The Contractor shall comply with all applicable workmen's compensation Statutes of the State of Mississippi and shall furnish evidence of Employer's Liability Insurance in an amount of not less than \$100,000.

b. General Liability Insurance. Bodily injury liability insurance in the minimum limits of \$500,000 per occurrence on the comprehensive form of policy.

c. Automobile Liability Insurance. Minimum limits of \$200,000 per person and \$500,000 per occurrence for bodily injury and \$20,000 per occurrence for property damage. This insurance shall be on the comprehensive form of policy and shall cover the operation of all automobiles used in performance of the contract.

1.15 WORK IN QUARANTINED AREA

The work called for by this contract involves activities in counties quarantined by the Department of Agriculture to prevent the spread of certain plant pests which may be present in the soil. The Contractor agrees that all construction equipment and tools to be moved from such counties shall be thoroughly cleaned of all soil residues at the construction site with water under pressure and that hand tools shall be thoroughly cleaned by brushing or other means to remove all soil. In addition, if this contract involves the identification, shipping, storage, testing, or disposal of soils from such quarantined area, the Contractor agrees to comply with the provisions of ER 1110-1-5, "Plant Pest Quarantined Areas and Foreign Soil Samples" attachments, a copy of which will be made available by the Contracting Officer upon request. The Contractor agrees to assure compliance with this obligation by all subcontractors.

1.16 CERTIFICATES OF COMPLIANCE

Any certificates required for demonstrating proof of compliance of material with specification requirement shall be executed in four (4) copies. Each certificate shall be signed by an official authorized to certify on behalf of the manufacturing company and shall contain the name and address of the Contractor, the project name and location, and the quantity and date or dates of shipment or delivery to which the certificates apply. Copies of laboratory test reports submitted with certificates shall contain the name and address of the testing laboratory and the date or dates of the tests to which the report applies. Certification shall not be construed as relieving the Contractor from furnishing satisfactory material, if, after tests are performed on selected samples, the material is found not to meet the specific requirements.

1.17 SAFETY

This contract is subject to the requirements of EM 385-1-1, "U.S. Army Corps of Engineers Safety and Health Requirements Manual", dated 3 September 1996. No separate payment will be made for compliance with the requirements thereof.

1.18 SAFETY SIGN

The Contractor shall fabricate, erect and maintain a safety sign at the site, as located by the Contracting Officer. The sign shall be erected as soon as practicable, but not later than 15 calendar days after the date established for commencement of work. The data required shall be current. The safety sign shall meet the requirements specified in the U.S. Army Corps of Engineers Sign (USACES) Standards Manual, EP 310-1-6a and EP 310-1-6b. The Contractor can purchase the USACES standards manual from:

Corps of Engineers Publications Department
2803 52nd Avenue
Hyattsville, Maryland 20781

The publications department may be reached at telephone number (301) 436-2065. The price of the manual is \$65.00 which may change without notice.

A copy of the sign standards manual is available for review at the office of the Vicksburg District Sign Program Manager and questions concerning manufacture and installation of the safety sign may be addressed to:

Vicksburg District Sign Program Manager (Lawran Richter)
ATTN: CEMVK-OD-MN
4155 Clay Street
Vicksburg, MS 39183-3435
Telephone: (601) 631-5287

1.19 ACCIDENT PREVENTION PLAN

Refer to Contract Clause ACCIDENT PREVENTION (Alternate I). Within 15 days after receipt of award of the contract, an Accident Prevention Plan shall be submitted to the Contracting Officer for review and acceptance. The plan shall be prepared in the following format:

- a. An executed LMV FORM 358-R, "Administrative Plan" (available upon request), see Appendix A, "Minimum Basic Outline for Accident Prevention Plan" of EM 385-1-1.
- b. An executed LMV FORM 359-R, "Activity Hazard Analysis" (available upon request), see paragraph 01.A.09 and figure 1-1 of EM 385-1-1.
- c. A copy of company policy statement regarding accident prevention.
- d. When marine plant and equipment are in use under a contract, the method of fuel oil transfer shall be submitted on LMV Form 414R Fuel Oil Transfer, (available upon request). (Refer to 33 CFR 156.)
- e. The Contractor shall not commence physical work at the site until the plan has been accepted by the Contracting Officer, or his authorized representative. At the Contracting Officer's discretion, the Contractor may submit his Activity Hazard Analysis only for the first phase of construction provided that it is accompanied by an outline of the remaining phases of construction. All remaining phases shall be submitted and accepted prior to the beginning of work in each phase. Also, refer to Section 1, "Program Management", paragraph 01.B, "Indoctrination and Training" of EM 385-1-1.

1.20 DAILY INSPECTIONS

Refer to Contract Clause INSPECTION OF CONSTRUCTION. The Contractor shall perform daily safety inspections and record them on the forms approved by the Contracting Officer. Reports of daily inspections shall be maintained at the job site. The reports shall be records of the daily inspections and resulting actions. As a minimum each report shall include the following:

- a. Phase(s) of construction underway during the inspection
- b. Locations or areas inspections were made.
- c. Results of inspection, including nature of deficiencies observed and corrective actions taken, or to be taken, date, and signature of the person responsible for its contents.

1.21 ACCIDENT INVESTIGATIONS AND REPORTING

Refer to EM 385-1-1, Section 1, "Program Management", paragraph 01.D, "Accident Reporting and Recordkeeping". Accidents shall be investigated and reports completed by the immediate supervisor of the employee(s) involved and reported in writing to the Contracting Officer or his representative within one working day after the accident occurs.

1.22 ACCOMMODATIONS FOR GOVERNMENT REPRESENTATIVES

a. Accommodations. The Contractor shall furnish and maintain a temporary building for the exclusive use of the Government Representatives. The building shall be of light, but weatherproof construction, approximately 11.1 square meters in size with not less than 2.1 meters of headroom. It shall have a substantial workbench along one side and sufficient number of windows to admit ample working light. Windows shall be arranged to open and to be securely fastened from the inside. The door shall be of wood panel or solid core construction and be equipped with a padlock and heavy duty hasp bolted to the door. Insect screens shall be provided for windows. Glass panels in windows shall be equipped with bars or heavy mesh screens which will prevent easy access to the building through these panels. The Contractor shall heat the building by means of heaters and shall cool the building by means of an air conditioning unit. Electric current shall also be provided for operation of lights, appliances, and electric calculators at 115 volts AC. Electric current may be provided by use of a portable generator. A minimum of two wall outlets and two ceiling drops shall be provided in the building. One office desk and a minimum of two chairs shall be provided in the building. Telephone service with an exclusive line solely for Government use shall be furnished to the Government Representative building. Toilet facilities shall be provided in the building or adjacent thereto. The building shall remain the property of the Contractor and upon completion of all work under the contract shall be removed as provided in the Contract Clause OPERATIONS AND STORAGE AREAS. An office trailer meeting the above requirements will be acceptable.

b. Janitor Services. The Contractor shall furnish daily janitorial services for the above offices and perform any required maintenance of subject facility and adjacent grounds during the entire life of the contract. Toilet facilities shall be clean and sanitary at all times. Services shall be performed at such a time and in such a manner to least interfere with the operations but will be accomplished only when the facility is in daily use. The Contractor shall also provide daily trash collection and cleanup of the building and adjacent outside

areas, and shall dispose of all discarded debris in a manner approved.

c. Should the Contractor refuse, neglect, or delay compliance with the above requirements, the specific facilities may be furnished and maintained by the Contracting Officer, and the cost thereof will be deducted from any amount due or to become due the Contractor.

1.23 MACHINERY AND MECHANIZED EQUIPMENT

Machinery and mechanized equipment used under this contract shall comply with the following:

a. When a rubber-tired front-end loader, bulldozer, etc., is operated on floating plant, either a bumper or curb with a minimum height of one-third of the outside diameter of the largest tire on the equipment, a barge tied alongside, or other means acceptable to the Contracting Officer shall be used to prevent equipment from moving or falling into the water.

b. The stability of crawler, truck, and wheel-mounted cranes shall be assured.

(1) The manufacturer's load-rating chart may be used to determine the maximum allowable working load for each particular crane's boom angle provided a test load, with a boom angle of 20 degrees, confirms the manufacturer's load-rating table.

(2) Stability tests are required if:

(i) there is no manufacturer's load-rating chart securely fixed to the operator's cab;

(ii) there has been a change in boom or other structural member or,

(iii) there has been a change in the counterweight. The test shall consist of lifting a load with the boom in the least stable undercarriage position and at an angle of 20 degrees above the horizontal. The test shall be conducted under close supervision on a firm, level surface. The load that tilts the machine shall be identified as the test load. The test load moment (N-m) shall then be calculated by multiplying the horizontal distance (in meters) from the center of rotation of the machine to the test load, times the test load (in N).. Three-fourths of this test-load moment shall then be used to compute the maximum allowable operating loads for the boom at 20, 40, 60, and 80 degrees above horizontal. From these maximum allowable operating loads, curve shall be plotted and posted in the cab of the machine in sight of the operator. These values shall not be exceeded except in the performance test described below. The test load shall never exceed 100 percent of the manufacturer's maximum rated capacity.

(3) In lieu of the test and computations above, the crane may be load tested for stability at each of the four boom positions listed above.

c. Performance tests shall be performed in accordance with Section 16, "Machinery and Mechanized Equipment" of EM 385-1-1, "Safety and Health Requirements Manual", except as specified below. Performance tests shall be conducted after each stability test, when the crane is placed

in service on a project, and at least every 12 months.

(1) When conducting a performance load test which is required of a new crane or a crane in which load sustaining parts have been altered, replaced, or repaired (excluding replacement of the rope), the test load shall be as specified in ASME/ANSI B30 series. That is, for overhead, gantry, portal, pillar, tower, monorail, and underhung cranes, the test load shall not exceed 125 percent of the manufacturer's load rating capacity chart at the configuration of the test; for hammerhead tower, mobile, and floating cranes and boom trucks, the test load shall not exceed 110 percent of the manufacturer's load rating capacity chart at the configuration of the test.

(2) When conducting a performance load test which is required because a crane is reconfigured, or reassembled after disassembly, or because the crane requires an annual load test, the test loads shall not exceed 100 percent of the manufacturer's load rating capacity chart at the configuration of the test.

(3) All load tests are required to be conducted in accordance with the manufacturer's recommendations.

d. Inspections shall be made which will ensure a safe and economical operation of both cranes and draglines with inspection documented. Copies of the inspections and tests shall be available at the job site for review. All stability and performance tests on cranes and all complete dragline inspections shall be witnessed by the Contracting Officer or his authorized representative.

e. A complete dragline inspection shall be made:

(1) at least annually;

(2) prior to the dragline being placed in operation; and

(3) after the dragline has been out of service for more than 6 months.

f. All heavy equipment moved onto the worksite shall be inspected using the appropriate LMV Inspection Forms (attached at the end of this Section). All completed forms, including abatement schedule of any violations, shall be maintained at the job site for continued review and update as needed.

1.24 VEHICLE WEIGHT LIMITATIONS

Vehicle weight limitations for operation on rural roads and bridges may affect the prosecution of work in this contract. The Contractor will be responsible for obtaining all necessary licenses and permits in accordance with the Contract Clause PERMITS AND RESPONSIBILITIES. Current information regarding road and bridge weight limits may be obtained by contacting the Mississippi Department of Transportation and the president of the county Board of Supervisors for the counties through which equipment and materials will be transported as a result of this contract.

1.25 PUBLIC UTILITIES (1965 APR OCE)

a. The locations, if any, shown on the drawings for underground

utilities are approximate only. The exact locations of such utilities shall be determined by the Contractor in the field prior to commencing construction operations.

b. Prior to performing work in the proximity of any utility, the Contractor shall contact the utility owner.

c. The Contractor's attention is directed to the possibility that he may encounter public utilities within the project limits which may be buried and the existence of which are not presently known. Should any such utilities be encountered, the Contractor shall immediately notify the Contracting Officer, or his field representative, for a determination of whether the utilities shall be removed, relocated or altered.

d. Unless otherwise noted or determined, the Contractor shall make his own arrangements with the owners of public utilities for relocating or altering utility facilities as may be necessary to permit construction of the work under this contract. The Contractor shall also be responsible for the replacement, if necessary, of the facilities to their permanent location after the completion of the construction work.

An equitable adjustment to this contract for necessary utility relocation or alteration activities will be made in accordance with the Contract Clause CHANGES. However, prior to the implementation of any such relocation or alteration activities, the Contractor shall obtain the approval of the Contracting Officer or his field representative.

e. In the event the Contracting Officer chooses to arrange for such removals, relocations or alterations to be done by others, the Contractor shall cooperate fully in accordance with the Contract Clause OTHER CONTRACTS.

1.26 DAMAGE TO WORK

(a) The responsibility for damage to any part of the permanent work shall be as set forth in the Contract Clause PERMITS AND RESPONSIBILITIES. However, if, in the judgement of the Contracting Officer, any part of the permanent work performed by the Contractor is damaged by flood (see Section 00800 SPECIAL CONTRACT REQUIREMENTS paragraph PHYSICAL DATA, subparagraph FLOODS) or earthquake, which damage is not due to the failure of the Contractor to take reasonable precautions or to exercise sound engineering and construction practices in the conduct of the work, the Contractor shall make repairs as ordered by the Contracting Officer and full compensation for such repairs to permanent work will be made at the applicable contract unit or lump sum prices as fixed and established in the contract. If, in the opinion of the Contracting Officer, for any part of such damaged permanent work, there is no applicable contract unit or lump sum price, then an equitable adjustment pursuant to the Contract Clause CHANGES will be made as full compensation for the repairs for that part of the permanent work for which there is no applicable contract unit or lump sum price.

(b) Except as herein provided, damage to all work (including temporary construction), utilities, materials, equipment, and plant shall be repaired to the satisfaction of the Contracting Officer, at the Contractor's expense, regardless of the cause of such damage.

1.27 ENERGY CONSERVATION

The Contractor shall ensure that construction operations are conducted efficiently and with the minimum use of energy.

1.28 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER

a. This provision specifies the procedure for determination of time extensions for unusually severe weather in accordance with Contract Clause DEFAULT (FIXED PRICE CONSTRUCTION). In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

(1) The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.

(2) The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the contractor.

b. The following schedule of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities.

MONTHLY ANTICIPATED ADVERSE WEATHER DELAY
WORK DAYS BASED ON FIVE (5) DAY WORK WEEK

JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

(5) (5) (5) (4) (4) (4) (3) (3) (3) (4) (5) (5)

c. Upon acknowledgement of the Notice to Proceed (NTP) and continuing throughout the contract, the Contractor shall record on the daily CQC report, the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the contractor's scheduled work day. The number of actual adverse weather days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in paragraph b, above, the contracting officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with Contract Clause DEFAULT (FIXED PRICE CONSTRUCTION).

1.29 CONTROL OF ACCESS TO CONSTRUCTION AREAS

a. This paragraph supplements the Contract Clauses PERMITS AND RESPONSIBILITIES and OPERATIONS AND STORAGE AREAS.

b. It shall be the responsibility of the Contractor to prevent possible injury to visitors to the project site. Only personnel

engaged in contract work and others authorized by the Contracting Officer shall be permitted to enter into the construction areas. Suitable barriers, warning signs and directives shall be placed by the Contractor to direct persons not engaged in the work away from the areas of danger. The Contractor shall be responsible for effective enforcement of this clause during the period of this contract.

1.30 HARBOR MAINTENANCE FEE

a. Offerors or bidders contemplating use of U.S. ports in the performance of contract are subject to paying a harbor maintenance fee on cargo. Federal law establishes an ad valorem port use fee on commercial cargo imported into or exported from various U.S. ports. The fee is 0.125 percent (0.00125). Cargo to be used in performing work under contracts with the U.S. Government is not exempt from the fee, although certain exemptions do exist. Offerors are responsible for ensuring that the applicable fee and associated costs are taken into consideration in the preparation of their offers. Failure to pay the harbor maintenance fee may result in assessment of penalties by the Customs Service.

b. The statute is at Title 26 U.S. Code section 4461 and 4462, Department of Treasury Customs Service regulations implementing the statute, including a list of ports subject to the fee, are found at 19 CFR 24.24, Harbor Maintenance Fee. Additional information may be obtained from local U.S. Customs Service Offices or by writing to the Director, Budget Division, Office of Finance, Room 6328, U.S. Customs Service, 1301 Constitution Avenue, N.W., Washington, D.C. 20229.

1.31 INSPECTION

a. The inspectors will direct the maintenance of the gauges, ranges, location marks, and limit marks in proper order and position; but the presence of the inspector will not relieve the Contractor of responsibility for the proper execution of the work in accordance with the specifications. The Contractor will be required:

(1) To furnish, on the request of the Contracting Officer or any inspector, the use of such boats, boatmen, laborers, and material forming a part of the ordinary and usual equipment and crew of the plant as may be reasonably necessary in inspecting and supervising the work.

(2) To furnish, on the request of the Contracting Officer or any inspector, suitable transportation, from all points on shore designated by the Contracting Officer, to and from the various pieces of plant.

b. Should the Contractor refuse, neglect, or delay compliance with these requirements, the specific facilities may be furnished and maintained by the Contracting Officer, and the cost thereof will be deducted from any amount due or to become due the Contractor.

1.32 ACCEPTANCE

The work may be accepted as a whole. If stream and current conditions are such that in the opinion of the Contracting Officer, completion of work to be prescribed grade and/or section become impracticable and it is determined to be in the best interest of the Government, it may be accepted

even though it has not been completed to the prescribed grade and/or section.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

-- End of Section --

SAFETY INSPECTION CHECK LIST FOR CONSTRUCTION EQUIPMENT U. S. Army Engineer Division, Mississippi Valley		Date of Inspection		
Contractor or Unit		Contract No. or Activity		
Inspected by (Signature)		Approved by (Signature)		
Activity Inspected:				
NIGHT OPERATIONS				
NOTE: Corps of Engineers General Safety Requirements (EM 385-1-1) references are shown in parentheses.		Yes	No	Not App
1. General:				
a. On construction contracts, is there a designated Contractor's representative on duty during night operations?*				
b. Does the contractor have an approved Activity Hazard Analysis for night operations? (01.A.09)				
c. Has Activity Hazard Analysis been reviewed by all employees prior to start of operation and documented? (01.B.03)				
d. Is each new employee provided with initial safety orientation? (01.B.01)				
e. Are emergency phone numbers posted and at least 2 qualified first aid and CPR attendants on duty? (03.A.01, 03.A.02)				
f. Are weekly safety meetings being held for night shift employees, by field supervisors or foremen?				
g. Are regularly scheduled safety meetings being held, at least once a month, for night shift supervisors? (03.B.03)				
h. Are outlines of each safety meeting being maintained at project site? (01.B.03)				
2. Lighting:				
a. Is there adequate lighting in work areas? (07.A.01, Table 7-1, 16.A.11)				
b. Is there adequate lighting on decks, walkways and floating plant? (07.A.01, Table 7-1)				
c. Is there adequate lighting at crew boat loading dock and unloading areas? (07.A.01, Table 7-1)				
d. Are semi-portable equipment, floodlights, and work lights provided with protective grounding, if not exempted by NEC? (11.C.01)				
3. Transportation to and from floating plant:				
a. Is boat equipped with sufficient number of life preservers? (05.I.01)				
b. Is weather deck of boat coated with non-skid material? (19.B.01)				
c. Do guardrails meet requirements of EM 385-1-1? (19.B.01, 21.B.01, 21.B.07)				
d. If boat is more than 26 feet in length, does operator hold a current Coast Guard license? (19.A.02)				
e. If more than 6 passengers are carried, or boat length is greater than 26 feet in length, is vessel Coast Guard certified and operator licensed? (19.A.02)				
f. Does motor boats and skiffs meet minimum flotation requirements of Coast Guard? (19.C.02)				
g. Does boat have running lights as required by 33 CFR 81 APPA and 33 CFR 84 ANNEX 1 (regardless of length)?				
h. Is the capacity of boat and maximum no. of passengers posted in accordance with EM-385-1-1? (19.C.03)				
j. Is there safe, easy access from boat to landing? (19.B.01, 19.B.02))				
4. Miscellaneous:				
a. Are haul roads properly marked for night work?				
b. Are necessary access and haul roads provided to work area? (21.I.01)				
c. Are all employees dressed suitable for night operations? Minimum shall be short sleeve shirt, long trousers and leather or other protective work shoes.				
d. Are all vehicles and construction equipment properly lighted for night work? (18.A.04, 16.A.11)				
e. Does flag or signal person have reflectorized warning garments? (08.B.08)				
f. Are all spotters or signal personnel adequately trained for operation? (08.B.10)				
5. REMARKS:				
* (Ref. Contract General Provisions).				

SAFETY INSPECTION CHECK LIST FOR CONSTRUCTION EQUIPMENT U. S. Army Engineer Division, Mississippi Valley		Date of Inspection		
Contractor or Unit		Contract Number - Job Description		
Type of Equipment & Boom Length		Make, Model No., Identification		
Inspected by (Signature)		Approved by (Signature)		
CRANES AND DERRICKS NOTE: Corps of Engineers General Safety Requirements (EM 385-1-1) references are shown in parentheses.		Yes	No	Not App
1. Is a list of the required clearances from overhead power lines posted? If necessary to work near power lines, boom shall have insulating cage guard and load line shall have insulating link. (11.E.04, 11.E.07)				
2. Are load rating charts with the machine? (16.C.01, 16.C.13)				
3. Is a list of standard hand signals posted in cab? (16.C.10, 08.B.01, 08.B.02)				
4. Are shock absorbing boom stops installed on machine? (16.D.02)				
5. Has the manufacturer certified the boom stops? (16.D.02)				
6. Does the boom angle, levelness, and other indicators operate accurately? (16.D.01)				
7. Does the unit have a suitable fire extinguisher? (16.A.26)				
8. Are moving parts, gears, drums, shafts, belts adequately screened or guarded? (16.B.03)				
9. Is there adequate protection from hot pipes, etc? (16.B.03)				
10. Are steps, ladders, guard rails, provided for safe footing and access? (16.B.03, 21.A.01)				
11. Can lubrication and greasing be done safely? (16.B.13)				
12. Is the cab equipped with unbroken distortion free safety glass? (16.B.10)				
13. Is fuel tank located so that overflow and spills will not run into cab or come in contact with exhaust ? (16.B.04)				
14. Is the unit shut down for fueling, servicing, etc? (16.A.14)				
15. Are slings, fastenings, fittings inspected daily by a qualified person? * Is wire rope inspected by a competent person frequently? (Section 15)				
16. When wedge socket type fasteners are used, has the dead end been made secure against loosening? (15.B.04)				
17. Have the air tanks been tested and certified? (20.A.02)				
18. Are test and inspection records kept available as a part of the official project file? (16.A.01)				
19. Is there evidence of deformed, cracked, or corroded members in the crane structure or boom? * (ANSI)				
20. Do the drums have proper pawls or positive locking devices? (16.B.14)				
21. Is there sufficient cable available so as to allow three full wraps on the drum at all working positions? (16.C.09)				
22. Are daily inspections being made of all control mechanisms to assure that there is no maladjustment interfering with proper operation? *				
23. Are inspections being made, at least monthly, of control mechanisms for excessive wear of components, and contamination by lubricants, or other foreign matter? *				
24. Are frequent (daily to monthly) inspections being made of all safety devices? *				
25. Are daily inspections for deterioration, or leakage in air or hydraulic systems being made? *				
26. Are crane hook inspections being made frequently (daily to monthly) to assure that there are no cracks or that the normal hook throat opening has not increased more than 15% *				
27. Is there evidence of loose bolts or rivets? * (ANSI)				
28. Is there evidence of cracked or worn sheaves or drums? (15.F.04)				
29. Are parts such as pins, bearings, shafts, gears, rollers, and locking devices worn, cracked, or distorted?				
* (Ref Contract Special Clauses)		(Continued on reverse)		

CRANES AND DERRICKS						Yes	No	Not App																																														
30. Is there evidence of excessive wear on brake and clutch system parts? *																																																						
31. Is there evidence of excessively worn or damaged tires? *																																																						
32. Is the power plant in good mechanical condition? *																																																						
33. Are accessible areas within the swing radius of the rear barricaded? (16.C.08)																																																						
34. Has a boom hoist disengaging device been installed on cranes with cable supported booms? (16.D.02)																																																						
35. Is there a current set of operator's manuals available? (16.C.01)																																																						
36. Are cranes and derricks operated by qualified operators? (16.C.04)																																																						
37. Have lattice and Hydraulic cranes been equipped with a device to stop the load hoisting before the load block contacts the boom tip? (16.D.01)																																																						
<p>38. <u>Crane Stability Test:</u></p> <p style="margin-left: 40px;">Amount of counterweight: _____ lb.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-left: 40px;"> <thead> <tr> <th rowspan="2" style="width: 10%;">Boom Angle</th> <th rowspan="2" style="width: 15%;">Distance from Center Pin to Load Line R (ft)</th> <th colspan="2" style="width: 20%;">Tipping Load I (lb)</th> <th colspan="2" style="width: 20%;">Moment R x I</th> <th colspan="2" style="width: 20%;">Maximum Allowable Load L=0.75 I</th> </tr> <tr> <th style="width: 10%;">With Outriggers</th> <th style="width: 10%;">Without Outriggers</th> <th style="width: 10%;">With Outriggers</th> <th style="width: 10%;">Without Outriggers</th> <th style="width: 10%;">With Outriggers</th> <th style="width: 10%;">Without Outriggers</th> </tr> </thead> <tbody> <tr> <td>20°</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>40°</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>60°</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>80°</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table>									Boom Angle	Distance from Center Pin to Load Line R (ft)	Tipping Load I (lb)		Moment R x I		Maximum Allowable Load L=0.75 I		With Outriggers	Without Outriggers	With Outriggers	Without Outriggers	With Outriggers	Without Outriggers	20°	_____	_____	_____	_____	_____	_____	_____	40°	_____	_____	_____	_____	_____	_____	_____	60°	_____	_____	_____	_____	_____	_____	_____	80°	_____	_____	_____	_____	_____	_____	_____
Boom Angle	Distance from Center Pin to Load Line R (ft)	Tipping Load I (lb)		Moment R x I		Maximum Allowable Load L=0.75 I																																																
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80°	_____	_____	_____	_____	_____	_____	_____																																															
<p>39. <u>Performance Test:</u></p> <p style="margin-left: 40px;">a. Complete items 1-32 on this form.</p> <p style="margin-left: 40px;">b. Determine performance test load (PTL) from the stability test above with the boom at the 80° position. PTL=(1.25)(L)</p> <p style="margin-left: 40px;">c. Position the boom in the 80° position and allow the crane to lift, lower, and hold the performance test load.</p>																																																						
<p>40. Remarks</p>																																																						

SAFETY INSPECTION CHECK LIST FOR CONSTRUCTION EQUIPMENT U. S. Army Engineer Division, Mississippi Valley		Date of Inspection		
Contractor or Unit		Contract Number - Job Description		
Type of Equipment		Identification		
Inspected by (Signature)		Approved by (Signature)		
CRAWLER TRACTORS - DOZERS NOTE: Corps of Engineers General Safety Requirements (EM 385-1-1) references are shown in parentheses.		Yes	No	Not App
1. Is protection, (grills, canopies, screens) provided to shield operator from falling or flying objects? (16.B.10, 16.B.11)				
2. Is adequate roll over protection provided? (16.B.12)				
3. Are seat belts provided? (16.B.08, 16.b.12)				
4. Is the operator physically qualified? (01.C.01)				
5. Does the unit have a suitable fire extinguisher? (16.A.26)				
6. Is there an effective, working reverse alarm? (16.B.01)				
7. Are moving parts, shafts, sprockets, belts, etc. guarded? (16.B.03, 16.B.07)				
8. Is protection against contact with hot surfaces, exhaust, etc. provided? (16.B.03)				
9. Are all screens, guards, shields in place and effective? (16.B.03)				
10. Is the unit shut down for fueling, servicing, etc? (16.A.14)				
11. Is the dozer blade lowered when not in use? (16.A.09)				
12. Are sufficient lights provided for night operations? (16.A.11)				
13. Are there initial inspections and scheduled inspections of the equipment at regular intervals? (16.A.01, 16.A.02)				
14. Are fuel tanks located in a manner to prevent spills or overflows from running onto engine, exhaust, or electrical equipment? (16.B.04)				
15. Are exhaust discharges from equipment so directed that they do not endanger persons or obstruct the view of the operator? (16.B.05)				
16. Are inspection records kept available as a part of the official project file? (16.A.01)				
28. REMARKS:				

SAFETY INSPECTION CHECK LIST FOR CONSTRUCTION EQUIPMENT U. S. Army Engineer Division, Mississippi Valley		Date of Inspection		
Contractor or Unit		Contract Number - Job Description		
Type of Equipment & Boom Length		Make, Model No., Identification		
Inspected by (Signature)		Approved by (Signature)		
Equipment Inspected:				
<p style="text-align: center;">DRAGLINES</p> <p>NOTE: Corps of Engineers General Safety Requirements (EM 385-1-1) references are shown in parentheses.</p>		Yes	No	Not App
1. Is a list of the required clearances from overhead power lines posted? If necessary to work near power lines, boom shall have insulating cage guard and load line shall have insulating link. (11.E.04, 11.E.07)				
2. Does the unit have a suitable fire extinguisher? (16.A.26)				
3. Are moving parts, gears, drums, shafts, belts adequately screened or guarded? (16.B.03)				
4. Is there adequate protection from hot pipes, etc? (16.B.03)				
5. Are steps, ladders, guardrails, provided for safe footing and access? (16.B.03)				
6. Can lubrication and greasing be done safely? (16.A.08, 16.B.13)				
7. Is the cab equipped with unbroken safety glass? (16.B.10)(18.A.07)				
8. Is the fuel tank located so that overflow and spills will not run into cab or come in contact with exhaust? (16.B.04)				
9. Is the unit shut down for fueling, servicing, etc? (16.A.14)				
10. Is wire rope being inspected by a competent person frequently? (Daily to Monthly) (15.A.02)				
11. When wedge socket type fasteners are used, has the dead end been made secure against loosening? (15.B.04)				
12. Have the air tanks been tested and certified? (20.A.02,20.A.03)				
13. Are test records kept available as part of the official project file? (16.A.01)				
14. Is there evidence of deformed, cracked, or corroded members in the crane structure or boom?				
15. Do the drums have proper pawls or positive locking devices? (16.B.14)				
16. Is there sufficient cable available so as to allow three full wraps on the drum at all working positions? (16.C.09)				
17. Are daily inspections being made of all control mechanisms to assure that there is no maladjustment interfering with proper operation? (16.A.01,.02,.05)				
18. Are inspections being made, at least monthly, of control mechanisms for excessive wear of components, and contamination by lubricants, or other foreign matter? (16.A.01,.02,.05)				
19. Are frequent (daily to monthly) inspections being made of all safety devices? (16.A.01,.02,.05)				
20. Are daily inspections for deterioration, or leakage in air or hydraulic systems being made? (16.A.01,.02,.05)				
21. Is there evidence of loose bolts or rivets?				
22. Is there evidence of cracked or worn sheaves or drums?				
23. Are parts such as pins, bearings, shafts, gears, rollers, and locking devices worn, cracked, or distorted?				
24. Is there evidence of excessive wear on brake and clutch system parts?				
25. Is there evidence of excessively worn or damaged tires?				
26. Is the power plant in good mechanical condition?				
27. Is there evidence that the operator(s) are physically and emotionally qualified? (01.C.01)				
28. REMARKS:				

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01090

SOURCES FOR REFERENCE PUBLICATIONS

PART 1 GENERAL

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1.2 ORDERING INFORMATION

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

-- End of Section Table of Contents --

SECTION 01090

SOURCES FOR REFERENCE PUBLICATIONS

PART 1 GENERAL

1.1 REFERENCES

Various publications are referenced in other sections of the specifications to establish requirements for the work. These references are identified in each section by document number, date and title. The document number used in the citation is the number assigned by the sponsoring organization, e.g.

UL 1 (1993; Rev thru Jan 1995) Flexible Metal Conduit. However, when the sponsoring organization has not assigned a number to a document, an identifying number has been assigned for convenience, e.g. UL's unnumbered 1995 edition of their Building Materials Directory is identified as UL-01 (1995) Building Materials Directory. The sponsoring organization number (UL 1) can be distinguished from an assigned identifying number (UL-01) by the lack of a dash mark (-) in the sponsoring organization assigned number.

1.2 ORDERING INFORMATION

The addresses of the organizations whose publications are referenced in other sections of these specifications are listed below, and if the source of the publications is different from the address of the sponsoring organization, that information is also provided. Documents listed in the specifications with numbers which were not assigned by the sponsoring organization should be ordered from the source by title rather than by number.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959
Ph: 610-832-9500
Fax: 610-832-9555
E-mail: cservice@astm.org

CODE OF FEDERAL REGULATIONS (CFR)
Order from:
Government Printing Office
Washington, DC 20402
Ph: 202-512-1800
Fax: 202-275-7703
Internet: <http://www.pls.com:8001/his/cfr.html>

CORPS OF ENGINEERS (COE)
Order from:
U.S. Army Engineer Waterways Experiment Station
ATTN: Technical Report Distribution Section, Services
Branch, TIC
3909 Halls Ferry Rd.
Vicksburg, MS 39180-6199
Ph: 601-634-2355
Fax: 601-634-2506

ENGINEERING MANUALS (EM)
USACE Publications Depot
Attn: CEIM-SP-D
2803 52nd Avenue
Hyattsville, MD 20781-1102
Ph: 301-394-0081

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST)
Department of Commerce
Gaithersburg, MD 20899-0001
Ph: 301-975-4025
Fax: 301-926-1630
Order From:
Superintendent of Documents
U.S. Government Printing Office (GPO)
Washington, DC 20402
Ph: 202-512-1800
Fax: 202-512-2250
or
National Technical Information Services (NTIS)
5285 Port Royal Rd.
Springfield, VA 22161
Ph: 800-553-6847
Fax: 703-321-8547
Internet: <http://www.gov/ntis.gov>

PART 2 PRODUCTS (Not Applicable)

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SECTION 01130

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- 1.2 PAYMENT
- 1.3 ENVIRONMENTAL PROTECTION REQUIREMENTS
 - 1.3.1 Environmental Protection Plan
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 - 1.3.1.4 Drawings
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SECTION 01130

ENVIRONMENTAL PROTECTION

PART 1 GENERAL

1.1 DEFINITIONS

Environmental pollution and damage is defined as the presence of chemical, physical, or biological elements or agents that adversely affect human health or welfare; unfavorably alter ecological balances of importance to life; or degrade the environment for aesthetic, cultural or historical purposes. Environmental protection is the prevention and/or control of pollution that develops during normal construction practice. The control of environmental pollution and damage requires consideration of air, water, soil, and land resources; and includes management of visual aesthetics; noise; solid, chemical, and liquid waste; radiant energy and radioactive materials; and other pollutants.

1.2 PAYMENT

No separate payment or direct payment will be made for the cost of the work covered under this section, and such work will be considered as a subsidiary obligation of the Contractor.

1.3 ENVIRONMENTAL PROTECTION REQUIREMENTS

A plan shall be developed to provide for environmental protective measures to prevent and/or control pollution that may develop during construction. The plan shall contain protective measures required to prevent or correct conditions that may develop during the construction. The liability for environmental noncompliance shall be borne by the Contractor.

1.3.1 Environmental Protection Plan

Within 15 days after receipt of Notice of Award of the contract and at least 7 days prior to the Preconstruction Conference, the Contractor shall submit in writing an Environmental Protection Plan. No physical work at the site shall begin until the Contracting Officer has approved the plan and provided specific authorization to start a phase of the work. Preparation and submittal of supplemental plan(s) may be necessary for later phases of work. A copy of the complete Environmental Protection Plan shall be maintained on-site at all times during the life of the contract. The environmental protection plan shall include but not be limited to the following.

1.3.1.1 Protection of Features

In accordance with Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS, the Contractor shall develop methods for the protection of features to be preserved within authorized work areas. The Contracting Officer will prepare a list of resources needing protection and preservation (i.e., trees, shrubs, vines, grasses and ground cover, landscape features, air quality, noise levels, surface and ground water quality, fish and wildlife, soil, historic, archaeological and cultural resources). The Contractor's plan shall

identify methods to protect these and other resources present and specify measures to protect the environment should an accident, natural causes of pollution, or failure to follow the environmental protection plan occur during construction. The Contractor's plan shall specify how the quality and protective measures of these resources shall be monitored. Furthermore the Contractor's plan shall specify how and where waste shall be disposed.

1.3.1.2 Procedures

The Contractor shall implement procedures to provide the required environmental protection and to comply with the applicable laws and regulations. The Contractor shall set out the procedures to be followed to correct pollution of the environment due to accident, natural causes or failure to follow the procedures set out in accordance with the environmental protection plan.

1.3.1.3 Permit or License

The Contractor shall obtain all needed permits or licenses. The Contractor shall be responsible for complying with all permits and licenses throughout the duration of this contract.

1.3.1.4 Drawings

The Contractor shall include drawings identifying the areas of limited use or nonuse and show locations of any proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, stockpiles of earth materials, and disposal areas for excess earth material and unsuitable earth materials.

1.3.1.5 Recycling and Waste Prevention Plan

The Contractor shall submit as a part of the Environmental Protection Plan, a Recycling and Waste Prevention Plan.

1.3.1.6 Environmental Monitoring Plans

The Contractor shall include environmental monitoring plans for the job site which incorporate land, water, air and noise monitoring.

1.3.1.7 Traffic Control Plan

The Contractor shall include a traffic control plan for the job site. This plan shall focus on reducing erosion of temporary roadbeds by construction traffic, especially during wet weather, and reducing the amount of mud transported onto paved public roads by motor vehicles or runoff.

1.3.1.8 Surface and Ground Water

The Contractor shall establish methods of protecting surface and ground water during construction activities. These water courses shall be protected from pollutants such as petroleum products, fuels, oils, lubricants, bentonite, bitumens, calcium chloride, acids, waste washings, sewage, chlorinated solutions, herbicides, insecticides, lime, wet concrete, cement, silt, or organic or other deleterious material. Chemical emulsifiers, dispersants, coagulants, or other cleanup compounds shall not be used without prior written approval from the Contracting Officer. Waters used to wash equipment shall be disposed to prevent entry into a waterway until treated to an acceptable quality. Fuels, oils, greases,

bitumens, chemicals, and other nonbiodegradable materials shall be contained with total containment systems and removed from the site for disposal in an approved manner.

1.3.1.9 Noise Intrusion

The Contractor shall exercise controls to minimize damage to the environment by noise from construction activities. All Contractor's, subcontractors', and suppliers' equipment used on or in the vicinity of the job site shall be equipped with noise suppression devices. Equipment not so suppressed and properly maintained must be approved for use in writing by the Contracting Officer. Areas that have noise levels greater than 85 dB continuous or 140 dB peak (unweighted) impulse must be designated as noise hazardous areas. These work areas must have caution signs displayed at the perimeter of the noise area indicating the presence of hazardous noise levels and requiring the use of hearing protection devices.

1.3.1.10 Work Area Plan

The Contractor shall include a work area plan showing the proposed activity in each portion of the area and identifying the areas of limited use or nonuse. The plan shall include measures for marking the limits of use areas.

1.3.1.11 Contaminant Prevention Plan

The Contractor shall identify potentially hazardous substances to be used on the job site and intended actions to prevent accidental or intentional introduction of such materials into the air, water or ground. The Contractor shall detail provisions to be taken to meet Federal, State and local laws and regulations regarding the storage and handling of these materials. The plan shall include, but not be limited to, plans for preventing polluted runoff from plants, parked equipment, and maintenance areas from entering local surface and ground water sources.

1.4 ENVIRONMENTAL LITIGATION

a. If the performance of all or any part of the work is suspended, delayed, or interrupted due to an order of a court of competent jurisdiction as a result of environmental litigation, as defined below, the Contracting Officer, at the request of the Contractor, shall determine whether the order is due in any part to the acts or omissions of the Contractor, or a Subcontractor at any tier, not required by the terms of the contract. If it is determined that the order is not due in any part to acts or omissions of the Contractor, or a Subcontractor at any tier, other than as required by the terms of this contract, such suspension, delay, or interruption shall be considered as if ordered by the Contracting Officer in the administration of this contract under the terms of the SUSPENSION OF WORK clause of this contract. The period of such suspension, delay, or interruption shall be considered unreasonable, and an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) as provided in that clause, subject to all the provisions thereof.

b. The term "Environmental Litigation", as used herein, means a lawsuit alleging that the work will have an adverse effect on the environment or that the Government has not duly considered, either substantively or procedurally, the effect of the work on the environment.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 PROTECTION OF ENVIRONMENTAL RESOURCES

The Contractor shall protect the environmental resources (such as, but not limited to, historic, archaeological and cultural resources; land, water, and air resources; and fish and wildlife resources) within the project boundaries and those affected outside the limits of permanent work under this contract according to Federal, State, and local laws during the entire period of the contract.

3.1.1 Protection of Land Resources

In accordance with Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS, the land resources within the project boundaries and those affected outside the limits of work under this contract shall be preserved in their present condition or be restored to an equivalent condition upon completion of the work. Prior to initiating any construction, the Contractor shall identify all land resources to be preserved within the work area, including those identified by the Contracting Officer. The Contractor shall not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and landforms without permission from the Contracting Officer unless otherwise specified. No ropes, cables, or guys shall be fastened to or attached to any trees for anchorage unless specifically authorized. Where such special emergency use is permitted, the Contractor shall provide effective protection for land and vegetation resources at all times and shall be responsible for any subsequent damage as defined in the following subparagraphs.

3.1.1.1 Work Area Limits

Prior to any construction, the Contractor shall mark the areas within the designated work areas that are not required to accomplish work to be performed under this contract and which are to be protected. Isolated areas within the general work area which are to be saved and protected shall be marked or fenced. Monuments and markers shall be protected during construction. Where construction operations are to be conducted during darkness, the markers shall be visible. The Contractor shall convey to his personnel the purpose of marking and protecting all necessary objects.

3.1.1.2 Protection of Landscape

Trees, shrubs, vines, grasses, landforms and other landscape features, indicated and defined on the drawings to be preserved shall be clearly identified by marking, fencing, or wrapping with boards, or other approved techniques.

3.1.1.3 USDA Quarantined Considerations

See Section 01000 GENERAL CONTRACT REQUIREMENTS, paragraph WORK IN QUARANTINED AREA.

3.1.1.4 Location of Contractor On-Site Facilities

The Contractor's on-site field offices, staging areas, stockpile storage,

and temporary buildings shall be placed in approved areas. Temporary movement or relocation of Contractor on-site facilities shall be only on approval by the Contracting Officer.

3.1.1.5 Disposal of Solid Wastes

Solid wastes (not including clearing debris) shall be any waste excavated or generated by the Contractor (as described by Federal, State, and local laws and regulations). Solid waste shall be placed in containers and disposed on a regular schedule. All handling and disposal shall be conducted to prevent spillage and contamination. The Contractor shall participate in any State or local recycling programs to reduce the volume of solid waste materials at the source whenever practical.

3.1.1.6 Disposal of Hazardous Wastes

Hazardous waste shall be stored, removed from the work area, and disposed of in accordance with Federal, State, and local laws and regulations. Hazardous waste shall not be dumped onto the ground, into storm sewers or open water courses, or into the sanitary sewer system. Fueling and lubrication of equipment and motor vehicles shall be conducted in a manner that affords the maximum protection against spills and evaporation.

3.1.1.7 Disposal of Discarded Materials

Discarded materials that cannot be included in the solid waste category shall be handled as approved.

3.1.1.8 Disposal of Waste Oils

Waste oils and/or lubricants shall be disposed of in accordance with all Federal, State, and local laws and regulations. The Contractor shall collect waste oil and/or lubricants in leak-tight containers, ensure that all openings on the containers are tightly sealed (including the drum ring and bung closures), and label the containers to clearly indicate contents. Disposal through a waste oil recycler is required. The Contractor shall ensure that the recycler has all appropriate State and Federal permits.

3.1.2 Historical, Archaeological and Cultural Resources

The Contractor shall take precautions to preserve existing historical, archaeological and cultural resources. The Contractor shall install protection for these resources and shall be responsible for their preservation during this contract. If during construction activities the Contractor observes items that may have archaeological or historic value (e.g., when Native American human remains and associated objects are discovered), the Contractor shall stop work in the area, leave the items undisturbed, and immediately report the find to the Contracting Officer. Such items may include historic artifacts of glass, metal and ceramics, or prehistoric artifacts such as stone tools, ceramics, bone, and shell. The Contractor shall not judge the potential significance of any suspected cultural material, but shall report all findings to the Contracting Officer.

3.1.3 Protection of Water Resources

The Contractor shall keep construction activities under surveillance, management, and control to avoid pollution of surface and ground waters. Discharges of any pollutant into the water courses is strictly prohibited, unless excepted by the Contracting Officer.

3.1.3.1 Waste Water

Waste water directly derived from washing equipment, or any other construction activities shall not be discharged into natural water areas.

3.1.3.2 Monitoring of Water Areas Affected by Construction Activities

The Contractor shall be responsible for monitoring all water areas affected by construction activities. In the event that water quality violations result from the Contractor's operation, the Contractor shall suspend the operation or operations causing the pollution, and such suspension shall not form the basis for a claim against the Federal government. Compliance with the Federal, State, and local laws and regulations and conditions of any permits and clearances obtained for the work shall be the Contractor's responsibility. In accordance with the Contract Clause PERMITS AND RESPONSIBILITIES, the Contractor shall perform all work in compliance with the provisions of the contract and applicable Federal, State, and local environmental laws and regulations with regard to surface or subsurface waters within or adjacent to the project areas.

3.1.4 Protection of Aquatic and Wildlife Resources

The Contractor shall keep construction activities under surveillance, management, and control to prevent interference with, disturbance to, and damage to aquatic resources and/or wildlife. Species that require specific attention as defined by law or specified by the Contracting Officer, along with measures for their protection, shall be listed by the Contractor prior to beginning of construction operations.

3.1.5 Protection of Air Resources

The Contractor shall keep construction activities under surveillance, management and control to minimize pollution of air resources. In accordance with the Contract Clause PERMITS AND RESPONSIBILITIES, all activities, equipment, processes, and work operated or performed by the Contractor in accomplishing the specified construction shall be in strict accordance with all applicable Federal, State, and local emission and performance laws and standards. Special management techniques as set out below shall be implemented to control air pollution by the construction activities.

3.1.5.1 Particulates

Dust particles, aerosols, and gaseous by-products from all construction activities, disturbed areas, and/or processing and preparation of materials, such as from asphaltic batch plants, shall be controlled at all times, including weekends, holidays, and hours when work is not in progress. The Contractor shall maintain all excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, disposal sites, borrow areas, and all other work areas within or outside the project boundaries free from particulates which would cause air pollution standards specified in paragraph PROTECTION OF AIR RESOURCES to be exceeded or which would cause a hazard or a nuisance. Sprinkling, chemical treatment of an approved type, light bituminous treatment, baghouse, scrubbers, electrostatic precipitators, or other methods will be permitted to control particulates in the work area. Sprinkling shall be repeated at such intervals as to keep the disturbed area damp at all times.

3.1.5.2 Hydrocarbons and Carbon Monoxide

Hydrocarbons and carbon monoxide emissions from equipment shall be controlled to Federal, State, and local allowable limits at all times.

3.1.5.3 Volatile Organic Compound (VOC)

The Contractor shall comply with Federal, State, and local laws and regulations pertaining to emission of VOC vapors at all times.

3.1.5.4 Odors

Odors shall be controlled at all times for all construction activities, including processing and preparation of materials.

3.1.5.5 Monitoring Air Quality

Monitoring of air quality at the construction site(s) shall be the responsibility of the Contractor.

3.2 NONCOMPLIANCE

If the Contracting Officer notifies the Contractor in writing of any observed noncompliance with contract requirements or Federal, State, or local laws, regulations, or permits, the Contractor shall take all necessary action to correct the noncompliance. If the Contractor fails to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action is taken. No time extensions will be granted or costs or damage allowed to the Contractor for any such suspension. (See also the Contract Clause PERMITS AND RESPONSIBILITIES.)

3.3 CLEANUP OF CONTAMINANT RELEASES

The Contractor shall provide the Contracting Officer for approval, a containment cleanup plan including the procedures, instructions, and reports to be used in the event of an unforeseen substance release. This plan shall include as a minimum:

- a. The name of the individual who will be responsible for implementing and supervising the containment and cleanup.
- b. A list of materials and equipment to be immediately available at the job site, tailored to cleanup work of the potential hazard(s) identified.
- c. The names and locations of suppliers of containment materials and locations of additional fuel oil recovery, cleanup, restoration, and material placement equipment available in case of an unforeseen spill emergency.
- d. The methods and procedures to be used for expeditious contaminant cleanup.
- e. The name of the individual who will report any spills or hazardous substance releases and who will follow up with complete documentation. This individual shall immediately notify the Contracting Officer in addition to the legally required reporting channels when a reportable quantity spill of oil or hazardous substance occurs.

3.4 POST CONSTRUCTION CLEANUP

3.4.1 Construction Areas

The Contractor shall clean up areas used for construction and remove all signs of temporary construction facilities; Contractor office, storage and staging areas; quarry and borrow areas, and all other areas used by the Contractor during construction. Furthermore, the disturbed areas shall be graded and filled as approved by Contracting Officer. Restoration of original contours is not required unless specified in another section. (See also the Contract Clause CLEANING UP.)

3.5 RESTORATION OF LANDSCAPE DAMAGE

All landscape features damaged or destroyed during construction operations that were not identified for removal shall be restored. Any vegetation or landscape feature damaged shall be restored as nearly as possible to its original condition. (See also the Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS.)

3.6 MAINTENANCE OF POLLUTION FACILITIES

The Contractor shall maintain all constructed facilities and portable pollution control devices for the duration of the contract or for the length of time construction activities create the particular pollutant.

3.7 TRAINING OF CONTRACTOR PERSONNEL IN POLLUTION CONTROL

Contractor personnel shall be trained in environmental protection and conduct environmental protection meetings monthly. The training and meeting agenda shall include methods of detecting and avoiding pollution, familiarization with pollution standards, both statutory and contractual, and installation and care of facilities (vegetative covers, and instruments required for monitoring purposes) to insure adequate and continuous environmental pollution control. Personnel are to be informed of provisions for hazardous and toxic materials container labeling and for managing Material Safety Data Sheets (MSDS). Anticipated hazardous or toxic chemicals shall also be reviewed. Other items to be discussed shall include recognition and protection of archaeological sites and artifacts. The Contractor shall include training topics discussed and attendance as a part of his daily CQC Report.

-- End of Section --

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SECTION 01330

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-- End of Section Table of Contents --

SECTION 01330

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUBMITTAL CLASSIFICATION

Submittals are identified with submittal description (SD) numbers and are classified as follows:

1.1.1 Government Approved

Governmental approval is required for extensions of design, critical materials, deviations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer.

Within the terms of the Contract Clause SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, they are considered to be "shop drawings."

1.1.2 Information Only

All submittals not requiring Government approval will be for information only. They are not considered to be "shop drawings" within the terms of the Contract Clause referred to above.

1.2 SUBMITTALS

The submittals described below are those required and further described in other sections of the specifications. Submittals required by the CONTRACT CLAUSES and other non-technical parts of the contract are not included in this section.

SD-08 Statements

A document, required of the Contractor, or through the Contractor, by way of a supplier, installer, manufacturer, or other lower tier Contractor, the purpose of which is to further the quality or orderly progression of a portion of the work by documenting procedures, acceptability of methods or personnel, qualifications, or other verifications of quality.

SD-09 Reports

Reports of inspection and laboratory test, including analysis and interpretation of test results. Test methods used and compliance with recognized test standards shall be described.

SD-13 Certificates

Statement signed by responsible official of a manufacturer of a product, system or material, attesting that the product, system or material meets specified requirements. The statement must be dated after the award of this contract, name the project, and list the specific requirements which it is intended to address.

1.2.1 PAYMENT

No separate payment or direct payment will be made for the cost of the work covered under this section, and such work will be considered as a subsidiary obligation of the Contractor.

1.3 APPROVED SUBMITTALS

The Contracting Officer's approval of submittals shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory.

Approval will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the CQC requirements of this contract is responsible for dimensions, the design of adequate connections and details, and the satisfactory construction of all work. After submittals have been approved by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.4 DISAPPROVED SUBMITTALS

The Contractor shall make all corrections required by the Contracting Officer and promptly furnish a corrected submittal in the form and number of copies specified for the initial submittal. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, a notice in accordance with the Contract Clause CHANGES shall be given promptly to the Contracting Officer.

1.5 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 GENERAL

The Contractor shall make submittals as required by the specifications. The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Units of weights and measures used on all submittals shall be the same as those used in the contract drawings. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Prior to submittal, all items shall be checked and approved by the Contractor's Quality Control (CQC) representative and each item shall be stamped, signed, and dated by the CQC representative indicating action taken. Proposed deviations from the contract requirements shall be clearly identified. Submittals shall include items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals. Submittals requiring Government approval shall be scheduled and made prior to the acquisition of the material or equipment covered thereby. Samples remaining upon completion of the work shall be picked up and disposed of in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

3.2 SUBMITTAL REGISTER (ENG FORM 4288)

At the end of this section is one set of ENG Form 4288 listing items of equipment and materials for which submittals are required by the specifications; this list may not be all inclusive and additional submittals may be required. Columns "d" through "q" have been completed by the Government; the Contractor shall complete columns "a" and "s" through "t" and submit the forms to the Contracting Officer for approval within 10 calendar days after Notice to Proceed. The approved submittal register will become the scheduling document and will be used to control submittals throughout the life of the contract. The submittal register and the progress schedules shall be coordinated.

3.3 SCHEDULING

Submittals covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. Certifications to be submitted with the pertinent drawings shall be so scheduled. Adequate time (a minimum of 30 calendar days exclusive of mailing time) shall be allowed and shown on the register for review and approval. No delay damages or time extensions will be allowed for time lost in late submittals.

3.4 TRANSMITTAL FORM (ENG FORM 4025-R)

The sample transmittal form (ENG Form 4025-R) attached to this section shall be used for submitting both Government approved and information only submittals in accordance with the instructions on the reverse side of the form. These forms will be furnished to the Contractor. This form shall be properly completed by filling out all the heading blank spaces and identifying each item submitted. Special care shall be exercised to ensure proper listing of the specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item.

3.5 SUBMITTAL PROCEDURE

Submittals shall be made as follows:

3.5.1 Procedures

Submittals shall be prepared, as specified, with four (4) copies and the original delivered to the Contracting Officer.

3.5.2 Deviations

For submittals which include proposed deviations requested by the Contractor, the column "variation" of ENG Form 4025-R shall be checked. The Contractor shall set forth in writing the reason for any deviations and annotate such deviations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.

3.6 CONTROL OF SUBMITTALS

The Contractor shall carefully control his procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

3.7 GOVERNMENT APPROVED SUBMITTALS

Upon completion of review of submittals requiring Government approval, the submittals will be identified as having received approval by being so stamped and dated. Three (3) copies of the submittal will be retained by the Contracting Officer and one (1) copies of the submittal will be returned to the Contractor.

3.8 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Approval of the Contracting Officer is not required on information only submittals. The Government reserves the right to require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe.

3.9 STAMPS

Stamps used by the Contractor on the submittal data to certify that the submittal meets contract requirements shall be similar to the following:

CONTRACTOR

(Firm Name)

_____ Approved

_____ Approved with corrections as noted on submittal data and/or
attached sheets(s).

SIGNATURE: _____

TITLE: _____

DATE: _____

-- End of Section --

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE <i>(Read instructions on the reverse side prior to initiating this form)</i>	DATE	TRANSMITTAL NO.
---	------	-----------------

SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS *(This section will be initiated by the contractor)*

TO:	FROM:	CONTRACT NO.	CHECK ONE: <input type="checkbox"/> THIS IS A NEW TRANSMITTAL <input type="checkbox"/> THIS IS A RESUBMITTAL OF TRANSMITTAL _____
-----	-------	--------------	--

SPECIFICATION SEC. NO. <i>(Cover only one section with each transmittal)</i>	PROJECT TITLE AND LOCATION	CHECK ONE: THIS TRANSMITTAL IS FOR <input type="checkbox"/> FIO <input type="checkbox"/> GOV'T. APPROVAL
--	----------------------------	---

ITEM NO.	DESCRIPTION OF ITEM SUBMITTED <i>(Type size, model number/etc.)</i>	MFG OR CONTR. CAT., CURVE DRAWING OR BROCHURE NO. <i>(See instruction no. 8)</i>	NO. OF COPIES	CONTRACT REFERENCE DOCUMENT		FOR CONTRACTOR USE CODE	VARIATION <i>(See instruction No. 6)</i>	FOR CE USE CODE
				SPEC. PARA. NO. <i>e.</i>	DRAWING SHEET NO. <i>f.</i>			
<i>a.</i>	<i>b.</i>	<i>c.</i>	<i>d.</i>	<i>e.</i>	<i>f.</i>	<i>g.</i>	<i>h.</i>	<i>i.</i>

REMARKS	I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as other wise stated. _____ NAME AND SIGNATURE OF CONTRACTOR
---------	---

SECTION II - APPROVAL ACTION

ENCLOSURES RETURNED <i>(List by Item No.)</i>	NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY	DATE
---	--	------

INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.
2. Each transmittal shall be numbered consecutively in the space provided for "Transmittal No.". This number, in addition to the contract number, will form a serial number for identifying each submittal. For new submittals or resubmittals mark the appropriate box; on resubmittals, insert transmittal number of last submission as well as the new submittal number.
3. The "Item No." will be the same "Item No." as indicated on ENG FORM 4288-R for each entry on this form.
4. Submittals requiring expeditious handling will be submitted on a separate form.
5. Separate transmittal form will be used for submittals under separate sections of the specifications.
6. A check shall be placed in the "Variation" column when a submittal is not in accordance with the plans and specifications--also, a written statement to that effect shall be included in the space provided for "Remarks".
7. Form is self-transmittal, letter of transmittal is not required.
8. When a sample of material or Manufacturer's Certificate of Compliance is transmitted, indicate "Sample" or "Certificate" in column c, Section I.
9. U.S. Army Corps of Engineers approving authority will assign action codes as indicated below in space provided in Section I, column i to each item submitted. In addition they will ensure enclosures are indicated and attached to the form prior to return to the contractor. The Contractor will assign action codes as indicated below in Section I, column g, to each item submitted.

THE FOLLOWING ACTION CODES ARE GIVEN TO ITEMS SUBMITTED

A	--	Approved as submitted.	E	--	Disapproved (See attached).
B	--	Approved, except as noted on drawings.	F	--	Receipt acknowledged.
C	--	Approved, except as noted on drawings. Refer to attached sheet resubmission required.	FX	--	Receipt acknowledged, does not comply as noted with contract requirements.
D	--	Will be returned by separate correspondence.	G	--	Other (<i>Specify</i>)

10. Approval of items does not relieve the contractor from complying with all the requirements of the contract plans and specifications.

(Reverse of ENG Form 4025-R)

CONTRACT NO.

02110

CONTRACTOR

REMARKS

DATE _____

PAGE 1 OF 1 PAGES

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION

CONTRACTOR

SPECIFICATION SECTION

02543

COLDWATER RIVER AND SHORT FORK CREEK (BS-99-02)

[illegible]

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SECTION 01451

CONTRACTOR QUALITY CONTROL

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 3740	(1995) Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
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ASTM E 329	(1995c) Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction
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1.2 PAYMENT

Separate payment will not be made for providing and maintaining an effective Quality Control program, and all costs associated therewith shall be included in the applicable unit prices or job prices contained in the Bidding Schedule.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 GENERAL

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with the Contract Clause INSPECTION OF CONSTRUCTION. The quality control system shall consist of plans, procedures, and organization necessary to produce an end product which complies with the contract requirements. The system shall cover all construction operations, both on-site and off-site, and shall be keyed to the proposed construction sequence.

3.2 QUALITY CONTROL PLAN

3.2.1 General

The Contractor shall furnish for review by the Government, not later than 15 days after receipt of Notice of Award of the contract and at least 7 days prior to the Preconstruction Conference, the Contractor Quality Control (CQC) Plan proposed to implement the requirements of the Contract Clause INSPECTION OF CONSTRUCTION. The plan shall identify personnel, procedures, control, instructions, test, records, and forms to be used. Construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the features of work included in an

accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional features of work to be started.

3.2.2 Content of the CQC Plan

The CQC Plan shall include, as a minimum, the following to cover all construction operations, both on-site and off-site, including work by subcontractors, fabricators, suppliers, and purchasing agents:

a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff shall implement the three phase control system for all aspects of the work specified. The staff shall include a CQC system manager who shall report to the project manager or someone higher in the Contractor's organization. Project manager in this context shall mean the individual with responsibility for the overall management of the project including quality and production.

b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.

c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the contract. The CQC System Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities. Copies of these letters will also be furnished to the Government.

d. Procedures for laying out the work, verifying that the work has been constructed as required, and documenting the results of these quality control activities.

e. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, off-site fabricators, suppliers, and purchasing agents. These procedures shall be in accordance with Section 01330 SUBMITTAL PROCEDURES.

f. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities will be approved.)

g. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.

h. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures will establish verification that identified deficiencies have been corrected.

i. Reporting procedures, including proposed reporting formats.

j. A list of the definable features of work. A definable feature of

work is a task which is separate and distinct from other tasks and has separate control requirements. It could be identified by different trades or disciplines, or it could be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently more than one definable feature under a particular section. This list will be agreed upon during the coordination meeting.

3.2.3 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in his CQC Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.4 Notification of Changes

After acceptance of the CQC Plan, the Contractor shall notify the Contracting Officer in writing a minimum of seven calendar days prior to any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

3.3 COORDINATION MEETING

After the Preconstruction Conference, before start of construction, and prior to acceptance by the Government of the Contractor's Quality Control Plan, the Contractor shall meet with the Contracting Officer or Authorized Representative and discuss the Contractor's quality control system. The Contractor shall contact the Government to mutually schedule the Coordination Meeting at least 48 hours in advance of conducting the meeting. During the meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC operations, control activities, testing, administration of the system for both on-site and off-site work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting shall be prepared by the Government and signed by both the Contractor and the Contracting Officer. The minutes shall become a part of the contract file. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures which may require corrective action by the Contractor.

3.4 QUALITY CONTROL ORGANIZATION

The Contractor shall identify an individual within his organization at the worksite who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. This CQC System Manager shall be on the site at all times during construction and will be employed by the Contractor, except as noted in the following. An alternate for the CQC System Manager will be identified in the plan to serve in the event of the System Manager's absence. Period of absence may not exceed 2 weeks at any one time, and not more than 30 workdays during a calendar year. The requirements for the alternate will be the same as for the designated CQC Manager.

3.4.1 CQC Organizational Staffing

The Contractor shall provide a CQC staff which shall be at the worksite at all times during progress, with complete authority to take any action necessary to ensure compliance with the contract.

3.4.1.1 CQC Staff

Following are the minimum requirements for the CQC staff. These minimum requirements will not necessarily assure an adequate staff to meet the CQC requirements at all times during construction. The actual strength of the CQC staff may vary during any specific work period to cover the needs of the work period. When necessary for a proper CQC organization, the Contractor will add additional staff at no cost to the Government. This listing of minimum staff in no way relieves the Contractor of meeting the basic requirements of quality construction in accordance with contract requirements. All CQC staff members shall be subject to acceptance by the Contracting Officer.

3.4.1.2 CQC Systems Manager

The CQC Systems Manager shall be an experienced construction person with a minimum of 5 years experience in related work. The CQC Systems Manager and alternate when serving as CQC Systems Manager shall perform no other duties in addition to CQC Systems Manager except the person may also be Project Superintendent. The CQC Systems Manager and an alternate who serves as CQC Systems Manager shall have successfully completed the course, "Construction Quality Management for Contractors". This course is periodically offered at Vicksburg, MS. (The POC for this course is Mr. James Waddle, CEMVK-CD-MQ, at (601) 631-5501.)

3.4.1.3 Supplemental Personnel

A staff shall be maintained under the direction of the CQC System Manager to perform all CQC activities. The staff must be of sufficient size to ensure adequate CQC coverage of all work phases, work shifts, and work crews involved in the construction. These personnel may perform other duties, but must be fully qualified by experience and technical training to perform their assigned CQC responsibilities and must be allowed sufficient time to carry out these responsibilities. The CQC Plan will clearly state the duties and responsibilities of each staff member.

3.4.2 Organizational Changes

The Contractor shall obtain Contracting Officer's acceptance before replacing any member of the CQC staff. Requests shall include the names, qualifications, duties, and responsibilities of each proposed replacement.

3.5 SUBMITTALS

Submittals shall be made as specified in Section 01330 SUBMITTAL PROCEDURES. The Contractor shall be responsible for certifying that all submittals are in compliance with the contract requirements.

3.6 CONTROL

The controls shall include at least three phases of control to be conducted by the CQC System Manager for all definable features of work, as follows:

3.6.1 Preparatory Phase

This phase shall be performed prior to beginning each definable feature of work, after all required plans/documents are approved/accepted, and after all copies are at the work site. This phase shall include:

- a. A review of each paragraph of applicable specifications.
- b. A review of the contract drawings.
- c. A check to assure that all materials and equipment have been tested, submitted, and approved.
- d. A check to assure that provisions have been made to provide required control inspection and testing.
- e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.
- f. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.
- g. A review of the appropriate activity hazard analysis to assure safety requirements are met.
- h. Discussion of procedures for constructing the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that phase of work.
- i. A check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.
- j. The Government shall be notified at least 48 hours in advance of beginning any of the required action of the preparatory phase. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. The results of the preparatory phase actions shall be documented by separate minutes prepared by the CQC System Manager and attached to the daily CQC report. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

3.6.2 Initial Phase

This phase shall be accomplished at the beginning of a definable feature of work. The following shall be accomplished:

- a. A check of preliminary work to ensure that it is in compliance with contract requirements. Review minutes of the preparatory meeting.
- b. Verification of full contract compliance. Verify required control inspection and testing.
- c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with sample panels is appropriate.
- d. Resolve all differences.

e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.

f. The Government shall be notified at least 48 hours in advance of beginning the initial phase. Separate minutes of this phase shall be prepared by the CQC System Manager and attached to the daily CQC report. Exact location of initial phase shall be indicated for future reference and comparison with follow-up phases.

g. The initial phase should be repeated for each new crew to work on-site, or any time acceptable specified quality standards are not being met.

3.6.3 Follow-up Phase

Daily checks shall be performed to assure continuing compliance with contract requirements, including control testing, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted and all deficiencies corrected prior to the start of additional features of work which may be affected by the deficient work. The Contractor shall not build upon or conceal non-conforming work.

3.6.4 Additional Preparatory and Initial Phases

As determined by the Government, additional preparatory and initial phases may be conducted on the same definable features of work if the quality of on-going work is unacceptable, if there are changes in the applicable CQC staff, on-site production supervision or work crew, if work on a definable feature is resumed after a substantial period of inactivity, or if other problems develop.

3.7 TESTS

3.7.1 Testing Procedure

The Contractor shall perform specified or required tests to verify that control measures are adequate to provide a product which conforms to contract requirements. Testing includes operation and acceptance tests when specified. The Contractor shall procure the services of a Corps of Engineers approved testing laboratory or establish an approved testing laboratory at the project site. The Contractor shall perform the following activities and record and provide the following data:

- a. Verify that testing procedures comply with contract requirements.
- b. Verify that facilities and testing equipment are available and comply with testing standards.
- c. Check test instrument calibration data against certified standards.
- d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.
- e. Results of all tests taken, both passing and failing tests, will be recorded on the CQC report for the date taken. Specification paragraph

reference, location where tests were taken, and the sequential control number identifying the test will be given. If approved, actual test reports may be submitted later with a reference to the test number and date taken. An information copy of tests performed by an off-site or commercial test facility will be provided directly to the Contracting Officer. Failure to submit timely test reports as stated may result in nonpayment for related work performed and disapproval of the test facility for this contract.

3.7.2 Testing Laboratories

3.7.2.1 Capability Check

The Government reserves the right to check laboratory equipment in the proposed laboratory for compliance with the standards set forth in the contract specifications and to check the laboratory technician's testing procedures and techniques. Laboratories utilized for testing soils, concrete, asphalt, and steel shall meet criteria detailed in ASTM D 3740 and ASTM E 329.

3.7.2.2 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed a charge of \$2,000 to reimburse the Government for each succeeding recheck of the laboratory or the checking of a subsequently selected laboratory. Such costs will be deducted from the contract amount due the Contractor.

3.7.3 On-Site Laboratory

The Government reserves the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

3.7.4 Furnishing or Transportation of Samples for Testing

Costs incidental to the transportation of samples or materials will be borne by the Contractor. Samples of materials for test verification and acceptance testing by the Government shall be delivered to the Corps of Engineers Division Laboratory, f.o.b., at the following address:

Waterways Experiment Station
3909 Halls Ferry Road
Vicksburg, Mississippi 39183-6199

Coordination for each specific test, exact delivery location, and dates will be made through the Area Office.

3.8 COMPLETION INSPECTION

3.8.1 Punch List Inspection

Near the completion of all work or any increment thereof established by a completion time stated in Section 00800 SPECIAL CONTRACT REQUIREMENTS paragraph COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK, or stated elsewhere in the specifications, the CQC System Manager shall conduct an inspection of the work and develop a "punch list" of items which do not conform to the approved drawings and specifications. Such a list of

deficiencies/uncompleted work shall be included in the CQC documentation, as required by paragraph DOCUMENTATION below, and shall include the estimated date by which the deficiencies/uncompleted work shall be corrected/completed. The CQC System Manager or staff shall make a second inspection to ascertain that all deficiencies/uncompleted work have been corrected/completed. Once this is accomplished the Contractor shall notify the Government that the facility is ready for the Government "Pre-Final" inspection.

3.8.2 Pre-Final Inspection

The Government will perform this inspection to verify that the facility is complete and ready to be occupied or put in use. A Government "Pre-Final Punch List" may be developed as a result of this inspection. Any items noted on the "Pre-Final" inspection shall be corrected in a timely manner.

These inspections and any deficiency corrections required by this paragraph will be accomplished within the time stated for completion of the entire work or any particular increment thereof if the project is divided into increments by separate completion dates.

3.8.3 Final Acceptance Inspection

The Contractor's Quality Control System Manager, his Superintendent or other primary personnel, and the Contracting Officer's Representative shall be in attendance at this inspection. The customer and other Government personnel may also be in attendance. In the event of unavailability of the Contractor's representative, the Contracting Officer may elect to conduct the final acceptance inspection as scheduled. The Contracting Officer will formally schedule the final acceptance inspection based upon the results of the pre-final inspection. At least 14 days prior to the scheduled final acceptance inspection, the Contractor shall give the Contracting Officer a written notice of completion. The notice shall include the Contractor's assurance that all items previously identified to the Contractor as being unacceptable and all remaining work under the contract will be completed and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with the Contract Clause INSPECTION OF CONSTRUCTION.

3.9 DOCUMENTATION

The Contractor shall maintain current records providing factual evidence that required quality control activities and tests have been performed. These records shall include the work of subcontractors and suppliers and shall be on an acceptable form that includes, as a minimum, the following information:

- a. Contractor/subcontractor and their area of responsibility.
- b. Operating plant/equipment with hours worked, idle, or down for repair.
- c. Work performed each day, giving location, description, and by whom.
When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.
- d. Test and control activities performed with results and references to specifications/drawings requirements. The control phase should be

identified (Preparatory, Initial, Follow-up). List deficiencies noted along with corrective action.

e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.

f. Submittals reviewed, with contract reference, by whom, and action taken.

g. Off-site surveillance activities, including actions taken.

h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.

i. Instructions given/received and conflicts in plans and/or specifications.

j. Contractor's verification statement.

These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one copy of these records in report form shall be furnished to the Government daily within 24 hours after the date(s) covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, one report shall be prepared and submitted for every seven days of no work and on the last day of a no work period. All calendar days shall be accounted for throughout the life of the contract. The first report following a day of no work shall be for that day only. Reports shall be signed and dated by the CQC System Manager. The report from the CQC System Manager shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

3.10 SAMPLE FORMS

Sample forms enclosed at the end of this section are:

- a. CONTRACTOR QUALITY CONTROL (CQC) REPORT FORM
- b. PREPARATORY PHASE CHECKLIST FORM
- c. INITIAL PHASE CHECKLIST FORM

3.11 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the worksite, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for additional costs or damages by the Contractor.

-- End of Section --

CONSTRUCTION QUALITY MANAGEMENT REPORT

Contractor: _____ Date: _____

Contract No. DACW38- _____ Daily Report No. _____

Project Title & Location: _____

Weather: _____ Precipitation: _____ in. emp.: _____ Min _____ Max

Work Control Feature: _____ Portion of Day Suitable for Work: _____ %

1. Contractor/Subcontractors and Area of Responsibility:

NUMBER:	TRADE	HOURS	EMPLOYER	LOCATION/DESCRIPTION WORK
---------	-------	-------	----------	---------------------------

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

2. Operating Plant or Equipment. (Not hand tools)

PLANT/EQUIPMENT	DATE OF ARRIVAL/DEPART	DATE OF SAFETY CHECK	HOURS USED	HOURS IDLE	HOURS REPAIR
-----------------	---------------------------	-------------------------	---------------	---------------	-----------------

_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

3. Work performed today: (Indicate location and description of work performed by prime and/or subcontractors by number in table (1) above.)

CQM REPORT FORM (Cont'd)

4. Results of control activities: (Indicate whether P - Preparatory, I - Initial, or F - Follow-up Phase. When a P or I meeting is conducted, complete attachment I-A or I-B, respectively. When network analysis system is used, identify work by use of I-J)

5. Tests performed as required by plans and/or specifications:

6. Materials received:

7. Submittals Reviewed:

(a) Submittal No.	(b) Spec/Plan Reference	(c) By Whom	(d) Action
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8. Offsite surveillance activities, including action taken:

9. Job safety: (Report violations; Corrective instructions given; Corrective actions taken.)

CQM REPORT FORM (Con't)

10. Remarks: (Instructions received or given. Conflict(s) in Plans and/or specifications.)

Contractor's Verification: On behalf of the Contractor, I certify this portion of the report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the plans and specifications, to the best of my knowledge, except as noted above.

Authorized CQM System Manager Date

GOVERNMENT QUALITY ASSURANCE REPORT

1. Do you concur with the Contractor's Report for this period? ____Yes____*No
2. Did you observe any QC testing/inspections or perform any QA evaluations or verification of materials? ____*Yes____No
3. Were any instructions given to or information received from the Contractor? ____*Yes____No
4. Has anything developed on the work which, in your opinion, might lead to a change order or contract claim? ____*Yes____No

5. Safety Observations and General Comments/Remarks. (Use back of this form if more space is needed.) Answers to 1-4 above with an asterisk (*) are to be explained below.

I certify that this report is complete and accurate to the best of my knowledge.

Government Quality Assurance Representative Date

PREPARATORY PHASE CHECKLIST FORM

Contract No.: _____ Date: _____

Definable Feature: _____ Spec Section: _____

Government Rep Notified _____ Hours in Advance Yes _____ No _____

I. Personnel Present:

	NAME	POSITION	COMPANY/GOVERNMENT
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____
7.	_____	_____	_____

(List additional personnel on reverse side)

II. Submittals

1. Review submittals and submittal log 4288. Have all submittals been approved? Yes _____ No _____

If No, what items have not been submitted?

- a. _____
b. _____
c. _____

2. Are all materials on hand? Yes _____ No _____

If No, what items are missing?

- a. _____
b. _____
c. _____

3. Check approved submittals against delivered material. (This should be done as material arrives.)

Comments _____

III. Material storage

Are materials stored properly? Yes _____ No _____

If No, what action is taken? _____

PREPARATORY PHASE CHECKLIST FORM (Cont'd)

IV. Specifications

1. Review each paragraph of specifications.

2. Discuss procedure for accomplishing the work.

3. Clarify any differences.

V. Preliminary Work

Ensure preliminary work is correct.

If not, what action is taken? _____

VI. Testing

1. Identify test to be performed, frequency, and by whom. _____

2. When required? _____

3. Where required? _____

4. Review Testing Plan. _____

5. Has test facilities been approved? _____

VII. Safety

1. Review applicable portion of EM 385-1-1. _____

2. Activity Hazard Analysis approved? Yes _____ No _____

VIII. Corps of Engineers comments during meeting.

CQC Representative

INITIAL PHASE CHECKLIST FORM

Contract No.: _____ Date: _____

Definable Feature: _____

Government Rep Notified: _____ Hours in Advance Yes _____ No _____

I. Personnel Present:

	NAME	POSITION	COMPANY/GOVERNMENT
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____

(List additional personnel on reverse side)

II. Identify full compliance with procedures identified at preparatory phase. Coordinate plans, specifications, and submittals.

Comments: _____

III. Preliminary work. Ensure preliminary work is complete and correct. If not, what action is taken? _____

IV. Establish Level of Workmanship.

1. Where is work located? _____
2. Is a sample panel required? Yes _____ No _____
3. Will the initial work be considered as a sample? Yes _____ No _____
(If yes, maintain in present condition as long as possible.)

V. Resolve any Differences.

Comments: _____

INITIAL PHASE CHECKLIST FORM (Cont'd)

VI. Check Safety.

Review job condition using EM 385-1-1 and job hazard analysis.

Comments: _____

CQC Representative

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DIVISION 02 - SITE WORK

SECTION 02110

GENERAL SITEWORK

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PART 3 EXECUTION

-- End of Section Table of Contents --

SECTION 02110

GENERAL SITEWORK

PART 1 GENERAL

1.1 SCOPE

These specifications provide for furnishing all equipment, labor, and materials and performing all work in strict accordance with the specifications, drawings, and schedules for all clearing, grubbing, debris removal, excavation, backfilling, and grading, erosion control and all other incidental work in connection with the construction of longitudinal peaked stone dikes, stone tiebacks and transverse stone dikes at the location on the banks of Coldwater River and Short Fork Creek in the vicinity of Hernando, Mississippi, within a relatively short construction period. The work covered by these specifications requires steady and uninterrupted progress during construction. The Contractor shall diligently prosecute the work and provide the necessary equipment, skilled and experienced crew, and a regular and well-balanced supply of materials to insure uniform and continuous progress once construction has been started.

1.1.1 Suspension of Work

Except as provided in paragraph STAGE LIMITATIONS and Section 00800 SPECIAL CONTRACT REQUIREMENTS, paragraph COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK, the Contractor will not be permitted to suspend work without a request to suspend work or remove equipment from the location of work after the work has been started under this contract without prior approval of the Contracting Officer.

1.1.2 Excavation of Ramps

Excavating ramps through top bank will not be permitted within 8 meters of the limits of any stabilization work or existing bridges, roads, or houses. Unless otherwise directed, upon completion of construction, all ramps shall be restored to the original bank condition and provided with necessary treatment for erosion control.

1.1.3 Start and Completion of Work

The Contractor shall start and complete the work as specified in paragraph CONSTRUCTION SEQUENCE unless a request to change the construction sequence has been approved by the Contracting Officer.

1.1.4 Work to be Performed

The work to be performed is indicated on the drawings and includes the following types of work:

- a. Clearing, grubbing, clearing and snagging, debris removal, excavation, and backfilling.
- b. Constructing longitudinal peaked stone dikes.

- c. Constructing stone tiebacks and/or transverse stone dikes.
- d. Erosion control and willow planting.
- e. Restoration of worksite and haul roads.

1.2 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-08 Statements

Request to suspend work or remove equipment from the location of work; GA.

Request to change the construction sequence; GA.

1.3 STAGE LIMITATIONS

1.3.1 High Water Stages

Because of the "flashy" nature of Coldwater River and Short Fork Creek, high water stages can be expected to occur intermittently depending on basin rainfall. Interruptions and/or delays to construction may occur when high water stages and/or velocities make construction operations impracticable. The Contracting Officer reserves the right to delay operations whenever, in his opinion, high water stages and/or velocities make construction operations impracticable.

1.3.2 Extension of Contract Period Time

As provided in Contract Clause entitled, DEFAULT, the time stated for completion of the work will be extended to such extent that the work is delayed due to high water stages and/or velocities. If part of the work is delayed or interrupted by high water stages and/or velocities, the time stated for completion will be extended to such extent as final completion of all work is delayed as a result of the partial delay or interruption. The Contractor is responsible for any additional costs which may occur during or as a result of excusable delays due to those extensions or interruptions.

1.4 CONSTRUCTION SEQUENCE

Unless otherwise authorized, the sequence of operations listed below shall be followed for the bank stabilization work:

- a. All construction shall begin at the upstream end of the job and proceed to the downstream end of the job as directed by the Contracting Officer.
- b. Debris removal, clearing, clearing and snagging and grubbing.
- c. Construction of longitudinal peaked stone dikes.
- d. Perform the excavation and backfill for dikes and/or tiebacks and other incidental excavation.

e. Construction of the stone tiebacks and transverse stone dikes shall follow the excavation as closely as practicable. No more than six (6) excavations ahead of stone placement shall be permitted, unless approved by the Contracting Officer.

f. Erosion control and willow planting shall follow, as closely as practicable, completion of all other work in the area to receive erosion control and willow planting.

g. The contractor must request in writing and receive approval to deviate from the required construction sequence.

1.5 EXISTING STRUCTURES

No structures, power poles, telephone poles, overhead telephone and power lines that are within the limits of the work will be relocated and the Contractor will be required to work around those items except the items, if any, that are specified in Section 01000 GENERAL CONTRACT REQUIREMENTS paragraph, PUBLIC UTILITIES. (See Contract Clause entitled, ACCIDENT PREVENTION.)

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

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SECTION 02111

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SECTION 02111

CLEARING, GRUBBING, DEBRIS REMOVAL, AND EARTHWORK

PART 1 GENERAL

1.1 MEASUREMENT AND PAYMENT

1.1.1 Clearing

No measurement will be made for clearing. Payment for clearing covered herein shall be included in the contract job price for "Clearing and Grubbing" and payment thereof shall constitute full compensation for furnishing all plant, labor, materials, and performing all work as required.

1.1.2 Grubbing, Snagging, Clearing and Snagging, and Debris Removal

No measurement will be made for grubbing, snagging, and debris removal. Payment for grubbing, snagging, and debris removal covered herein shall be included in the contract job price for "Clearing and Grubbing" and payment thereof shall constitute full compensation for furnishing all plant, labor, materials, and performing all work as required.

1.1.3 Excavation

No separate measurement or payment will be made for excavation. Excavation, including borrow excavation, disposal of excess materials and all costs incidental thereto shall be included in the contract unit price per each for "Excavation and Backfill for Dikes and/or Tiebacks."

1.1.4 Excavation and Backfill for Dikes and/or Tiebacks

No measurement will be made for excavation and backfill for dikes and/or tiebacks including excavating or placing streambed sand and/or gravel used in filling the voids in the stone or for filling holes in the creek. Payment for excavation and backfill for dikes and/or tiebacks will be made at the contract unit price per each for "Excavation and Backfill for Dikes and/or Tiebacks" which price and payment shall constitute full compensation for furnishing all plant, labor, inspection, materials, and equipment required to perform the excavation and backfill for all dikes and/or tiebacks and all operations incidental thereto.

1.2 QUALITY CONTROL

The Contractor shall establish and maintain quality control for clearing, grubbing, clearing and snagging, debris removal, and earthwork to assure compliance with contract requirements and maintain detailed records of his quality control for all construction operations including, but not limited to, the following:

- a. Clearing limited to minimum required for construction operations.
- b. Removal and disposal of debris and materials of value from clearing and grubbing operations.
- c. Clearing and snagging areas specified on the drawings.

d. Excavation performed to limits and tolerances indicated on the drawings and disposal of excess material.

e. Backfill performed as specified.

1.3 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-08 Statements

Request to clear right-of-way or storage areas; GA.

Location of the disposal area outside of the right-of-way; GA.

Request to vary depth of borrow; GA.

PART 2 PRODUCTS

2.1 STREAMBED SAND AND/OR GRAVEL

Sources of streambed sand and/or gravel used in the backfill may be obtained from the streambed within the right-of-way limits shown on the drawings or from any other source provided by the Contractor and approved by the Contracting Officer.

2.2 BACKFILL MATERIAL

Backfill material shall be streambed sand and/or gravel as defined in paragraph BACKFILL, PLACEMENT AND COMPACTION. Backfill material shall be obtained in the work reaches within the rights-of-way limits of the site as shown on the drawings. Backfill materials shall not be transferred between sites. See paragraph BORROW EXCAVATION, for borrow excavation requirements. Any other source of backfill material proposed by the Contractor is subject to the approval of the Contracting Officer. If, in the opinion of the Contracting Officer, sufficient suitable materials are not available for backfill at the site, the Contractor will provide the materials from a suitable source and an equitable adjustment will be made under the Contract Clause CHANGES.

PART 3 EXECUTION

3.1 CLEARING

The streambank shall be cleared of all trees, brush, drift, car bodies, miscellaneous debris, or other obstruction that would hinder excavation or grading, and subsequent construction operations. Clearing shall be limited to the absolute minimum necessary for construction of the work. Any materials of value removed shall be stockpiled behind top bank as directed by the Contracting Officer. Care shall be taken by the Contractor not to cut or injure any trees which do not unreasonably interfere with the construction. It is the intent of these specifications that growth around the work area be preserved to the maximum extent practicable. Request to clear right-of-way or storage areas shall be submitted for approval and will be limited to approved areas. All trees and brush within the areas authorized to be cleared shall be felled and, together with drift, and

other debris, shall be disposed of as directed in paragraph DISPOSAL OF CLEARED AND GRUBBED MATERIALS AND OTHER DEBRIS.

3.2 GRUBBING, SNAGGING, AND DEBRIS REMOVAL

3.2.1 Grubbing

All stumps exposed during excavation or grading operations shall be either cut off flush with the finished slope grade or grubbed out and disposed of as directed in paragraph DISPOSAL OF CLEARED AND GRUBBED MATERIALS AND OTHER DEBRIS.

3.2.2 Snagging

Prior to placing stone, all snags, stumps, or other obstructions shall be removed from the area to be covered by the stone and disposed of as directed in paragraph DISPOSAL OF CLEARED AND GRUBBED MATERIALS AND OTHER DEBRIS.

3.2.3 Clearing and Snagging

Where indicated on the drawings and as directed by the Contracting Officer, log jams and/or trees are to be removed from the stream. These log jams and/or trees shall be disposed of outside the rights-of-way at a disposal area provided by the Contractor and as approved by the Contracting Officer.

The disposal area shall also be located as specified in paragraph DISPOSAL OF CLEARED AND GRUBBED MATERIALS AND OTHER DEBRIS.

3.3 DISPOSAL OF CLEARED AND GRUBBED MATERIALS AND OTHER DEBRIS

All debris resulting from construction operations shall be disposed of and removed from the site with the location of the disposal area outside of the right-of-way and obtained by the Contractor at no expense to the Government. The Contractor shall make a reasonable effort to channel materials of value resulting from clearing operations into beneficial use. Disposal of debris resulting from construction operations shall comply with all Federal, State and local laws. The Contractor may, at his option, retain for his own use or disposal by sale or otherwise any such materials of value. The Government assumes no responsibility for the protection or safekeeping of any materials retained by the Contractor. Such material shall be removed from the site of the work before the date of completion of the work under these specifications.

3.4 EXCAVATION FOR STONE

Where indicated on the drawings, the natural ground shall be excavated to provide for placement of stone. The finished grade shall conform to the prescribed grade within the limits of plus or minus 150 mm, and shall present a neat, smooth surface, free from all obstructions.

3.5 BORROW EXCAVATION

The Contractor shall use suitable material obtained from the streambed within the rights-of-way for backfill as specified in paragraph BACKFILL MATERIAL and BACKFILL, PLACEMENT AND COMPACTION. The Contracting Officer reserves the right at all times to specify the area(s) from which materials shall be procured, and approve any request to vary depth of borrow excavation.

3.6 BACKFILL, PLACEMENT AND COMPACTION

Those portions of dikes and tiebacks which are landward of high top bank shall be backfilled as shown on the drawings. The backfill shall be accomplished by placing streambed sand and/or gravel over the stone landward of high top bank, applying a sufficient quantity of water to disperse this material into the voids in the stone, leaving a minimum thickness of 150 mm of sand and/or gravel over the stone, then completing the backfill using material obtained from excavation for the dikes and tiebacks. Backfill material which contains 25 percent or more of material finer than sand shall be placed in layers not to exceed 600 mm in thickness, and each layer shall be compacted by one complete pass of a bulldozer weighing not less than 9100 kilograms and exerting a tread pressure of not less than 42 kPa. Sand is defined as material passing a No. 4 sieve and retained on a No. 200 sieve. Backfill composed of sand and/or gravel may be placed in lifts of any thickness, and no special compaction will be required. The backfill shall be sloped to drain landward and graded to a smooth surface transition into the surrounding surfaces. Backfill required to fill holes in the creek shall be composed of existing streambed sand and/or gravel. This backfill is necessary to support longitudinal peaked stone dikes when the placement of the stone passes over such holes.

3.7 DISPOSAL OF EXCAVATED MATERIAL

Excess excavated material, not used in the work, shall be disposed of outside the rights-of-way at a disposal area provided by the Contractor and as approved by the Contracting Officer. The disposal area must be an upland disposal area and shall not be located in any river, stream, lake or wetland area.

-- End of Section --

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DIVISION 02 - SITE WORK

SECTION 02543

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SECTION 02543

STONE

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 127	(1988; R 1993) Specific Gravity and Absorption of Coarse Aggregate
ASTM C 295	(1990) Petrographic Examination of Aggregates for Concrete
ASTM D 1429	(1995) Specific Gravity of Water and Brine
ASTM D 2487	(1993) Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D 3370	(1995a) Sampling Water from Closed Conduits

CORPS OF ENGINEERS (COE)

COE CRD-C 144	(1973) Testing Stone for Resistance to Freezing and Thawing
COE CRD-C 169	(1993) Resistance of Rock to Wetting and Drying

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST)

NIST HB 44	(1995) NIST Handbook 44: Specifications, Tolerances, and other Technical Requirements for Weighing and Measuring Devices
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1.2 MEASUREMENT AND PAYMENT

1.2.1 Measurement

Stone will be measured for payment by the ton (metric) as determined by the truckload on approved scales meeting the requirements of paragraph TRUCKLOAD.

1.2.1.1 Truckload

Each truck load shall be weighed by the Contractor to the nearest 0.1 ton (metric) and the final quantity rounded to the nearest whole ton. Stone shall be measured for payment by being weighed on approved scales before

being placed in the work. The Contractor shall furnish the scales and shall weigh the stone in the presence of the Contracting Officer, who will read and record the weights thereof. Scales shall be of sufficient length to permit simultaneous weighing of all axle loads and shall be inspected, tested and sealed as directed by the Contracting Officer to assure an accuracy within 0.5 percent throughout the range of the scales. The scales accuracy shall conform to the applicable requirements of NIST HB 44 and shall be certified as to accuracy by an acceptable scales company representative prior to weighing any stone. The scales shall be located at the site of work. If commercial scales are readily available in close proximity (within 16 km) of site of work, the Contracting Officer may approve the use of the scales. The Contracting Officer may elect to accept certified weight certificates furnished by a public weighmaster in lieu of scale weights at the jobsite. Quarry weights will not be accepted. Scales shall be checked and certified before hauling stone and rechecked and recertified whenever a variance is suspected and after each 50,000 tons increment of stone weighed under this contract.

1.2.2 Stockpiled Stone

If the Contractor elects to stockpile stone, he shall weigh the stone immediately before placement by the method described above. Stone placed in temporary onsite storage will not be required to be reweighed prior to placement.

1.2.3 Payment

Payment for stone satisfactorily placed in constructing the longitudinal peaked stone dikes, transverse stone dikes and stone tiebacks will be made at the applicable contract unit price for "Graded Stone-M90," which price and payment shall constitute full compensation for furnishing all plant, labor, materials and equipment and placing the stone in the work as specified. Deductions from payment in an amount considered equitable by the Contracting Officer will be made if the stone is contaminated with soil, dirt, or refuse. No separate payment will be made for the stockpiling of stone and all cost in connection therewith shall be included in the applicable contract unit price for stone.

1.3 GOVERNMENT TESTING AND STUDIES

1.3.1 Stone

1.3.1.1 General

All stone shall be durable material as approved by the Contracting Officer. In case an unlisted source is to be used, the Contractor shall show that an adequate quantity of material is available and provide quality test data. Stone shall be of a suitable quality to ensure permanence in the structure and in the climate in which it is to be used. It shall be free from cracks, seams and other defects that would tend unduly to increase its deterioration from natural causes. The stone shall be clean and reasonably free from earth and dust and shall contain no refuse.

1.3.1.2 Sources

Stone shall be furnished from any of the sources listed at the end of this section, or at the option of the Contractor may be furnished from any other source designated by the Contractor and accepted by the Contracting Officer, subject to the conditions herein stated. If the Contractor

proposes to furnish stone from a source not currently listed at the end of this section, the Government will conduct a quarry investigation and evaluate the quality test data provided by the contractor to determine whether acceptable stone can be produced from the proposed source. Satisfactory service records on other work may be acceptable. In order for stone to be acceptable on the basis of service records, stone of a similar size must have been placed in a similar thickness and exposed to weathering under similar conditions as are anticipated for this contract, and must have satisfactorily withstood such weathering for a minimum of 20 years.

a. List of Sources. On the basis of information and data available to the Contracting Officer, stone meeting the quality requirements of these specifications has been produced from the sources listed at the end of this section.

b. Selection of Source. The Contractor shall designate in writing only one source or one combination of sources from which he proposes to furnish stone. If the Contractor proposes to furnish stone from a source not listed at the end of this section, he may designate only a single unlisted source for stone and he shall notify the Contracting Officer at least 60 workdays before the stone leaves the quarry. It is the Contractor's responsibility to determine that the stone source or combination of sources selected is capable of supplying the quantities and gradation needed and at the rate needed to maintain the scheduled progress of the work. Samples for acceptance testing shall be provided in accordance with paragraph EVALUATION TESTING. If a source for stone so designated by the Contractor is not accepted for use by the Contracting Officer, the Contractor may not propose other sources but shall furnish the stone from a source listed at the end of this section at no additional cost to the government.

c. Acceptance of Materials. Acceptance of a source of stone is not to be construed as acceptance of all material from that source. The right is reserved to reject materials from certain localized areas, zones, strata, or channels, when such materials are unsuitable for stone as determined by the Contracting Officer. Materials produced from a listed or unlisted source shall meet all the requirements herein.

1.4 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-09 Reports

Gradation Test; FIO. Evaluation Tests; FIO.

The gradation tests shall be submitted using the GRADATION TEST DATA SHEET enclosed at end of this section.

Quality test on the stone in accordance with paragraph EVALUATION TESTING shall be the responsibility of the Contractor and submitted for approval prior to delivery of such material to the worksite.

SD-13 Certificates

Stone; FIO. Laboratory; FIO.

Certificates of compliance attesting that the materials meet specification requirements shall be submitted to the Contracting Officer.

A copy of the testing laboratory's certification and inspection report shall be submitted along with actions taken to correct deficiencies.

PART 2 PRODUCTS

2.1 STONE

2.1.1 General

Only quarried stone shall be used. Stone quality shall be as specified in paragraph GOVERNMENT TESTING AND STUDIES, subparagraph STONE. Gradation shall conform to the table(s) below and to the plate(s) attached at the end of this section. A maximum of 10 percent flat and elongated pieces will be acceptable. A flat and elongated piece of stone is defined as a stone with either the width or thickness of the piece being less than one-third of the length.

TABLE I
(FOR STONE "M90")

PERCENT LIGHTER BY WEIGHT (SSD)	LIMITS OF STONE WEIGHT, kg
100	90 - 35
50	40 - 20
15	20 - 5

2.1.2 Evaluation Testing

If the Contractor proposes to furnish stone from an unlisted source, the Contractor shall have evaluation tests performed on stone samples collected from the proposed source. The tests to which the stone shall be subjected include petrographic examination (ASTM C 295), specific gravity, unit weight, and absorption (ASTM C 127), resistance of stone to freezing and thawing (COE CRD-C 144), and if sandstone is used, resistance to wetting and drying in accordance with (COE CRD-C 169).

a. Unit Weight and/or Absorption. Stone shall weigh more than 2 480 kg/cubic meter. The stone shall have an absorption less than 2 percent unless other tests and service records show that the stone is satisfactory. The method of test for unit weight and absorption will be ASTM C 127, except the unit weight will be calculated in accordance with Note No. 5 using bulk specific gravity, saturated surface dry.

b. Resistance to Freezing and Thawing. Stone when tested in accordance with COE CRD-C 144 shall have a loss of less than 5 percent.

c. Resistance to Wetting and Drying. This test shall only be required to be performed on sandstone samples. When tested in accordance with COE CRD-C 169 (35 cycles), there shall be a loss of less than one percent.

d. Samples. Samples of stone from a source not listed at the end of this section shall be taken by a representative of the Quarry under the supervision of the Contracting Officer for testing and acceptance prior

to delivery of any stone from this source to the site of the work. Samples shall consist of at least three pieces of stone, roughly cubical in shape and weighing not less than 34 kg each. The samples shall be shipped at the Contractor's expense to a laboratory certified by the government to perform the required tests.

e. Tests. The tests shall be conducted by the Contractor in accordance with applicable Corps of Engineers methods of tests given in the Handbook for Concrete and Cement, and shall be performed at a laboratory certified by the government. The cost of testing shall be borne by the Contractor.

2.1.3 Gradation Test

The Contractor shall perform a gradation test or tests on the stone at the quarry in accordance with paragraph STANDARD TEST METHOD FOR GRADATION OF RIPRAP AND GRADED STONE. The sample shall be taken by the Contractor in the presence of the Contracting Officer. The Contractor shall notify the Contracting Officer not less than 3 days in advance of each test. In the event of unavailability of a Government representative; the Contractor shall perform the tests and certify to the Contracting Officer that the stone shipped complies with the specifications. At least one gradation test shall be performed per 50,000 tons (metric) of each size of stone placed, but not less than one test shall be performed. The gradation tests shall be reported using the forms, GRADATION TEST DATA SHEET and ENG FORM 4794-R, attached at end of this section. The Contractor shall designate on the test form that portion in tons (metric) of the lot tested which is applicable to this contract. Any deviation from the reported tonnage shall be corrected and recorded on a revised GRADATION TEST DATA SHEET. The sample shall consist of not less than 15 tons (metric) of M90 stone, and shall be collected in a random manner which will provide a sample which accurately reflects the actual gradation arriving at the jobsite. Failure of the test on the initial sample and on an additional sample will be considered cause for rejection of the quarry and/or quarry process, and all stone represented by the failed tests shall be set aside and not incorporated into the work. Any additional tests required because of the failure of an initial test sample will not be considered as one of the other required tests. If collected by the truckload, each truckload shall be representative of the gradation requirements. The Contracting Officer may direct additional testing of the stone at the project site if the stone appears by visual inspection, to be out of gradation. The Contracting Officer may direct this testing under the Contract Clause INSPECTION OF CONSTRUCTION. The Contractor shall provide all necessary screens, scales and other equipment, the operating personnel, and shall grade the sample. Certification and test results shall represent stone shipped from the quarry. Certification and tests results must be received by the Contracting Officer at the jobsite before the stone is used in the work.

2.1.4 Stone Stockpile

Temporary storage of stone at the worksite is not to be confused with off-site stockpiling of stone. If the Contractor elects to provide off-site stockpiling areas, the Contracting Officer shall be notified by the Contractor of all such areas.

2.1.5 Worksite Stockpile

Stone delivered to the work sites, which requires temporary storage landward of top bank, shall be placed in a container suitable for storing

the stone without waste, or a sand-clay-gravel pad may be constructed for the storage area and removed upon completion of the work. If the sand-clay-gravel pad method is used, the pad shall have a minimum thickness of at least 150 mm. The container or sand-clay-gravel pad method shall be subject to approval prior to delivery of the stone. Upon completion of the work, the storage areas shall be cleaned of all storage residues and returned to their natural condition. Temporary storage of stone at the worksite will be allowed, provided the stream-side toe of the stone be no closer than 18 m from the closest edge of the stream's top bank, and the amount shall not exceed 200 tons (metric) unless otherwise approved. The Contractor's jobsite stockpile shall be a maximum of 3.6 m high and formed by a series of layers of truckload dumps, where the rock essentially remains where it is placed. Subsequent layers shall be started 3 m from the edge of the previous layer so that the rock will not roll down the edges of the previous layers. The first layer shall be a maximum of 2 m high. Any stone which has become contaminated with soil, dirt, or refuse after being stockpiled, will not be put into the work unless the contaminating material has been removed from the stone prior to placement. No stone shall be stored in the creek bottom.

2.1.6 Off-site Stockpile

The Contractor's off-site stone stockpile shall be a maximum of 3.6 m high and formed by a series of layers of truckload dumps, where the rock essentially remains where it is placed. Subsequent layers shall be started 3 m from the edge of the previous layer so that the rock will not roll down the edges of the previous layers. The first layer shall be a maximum of 2 m high. Any stone which has become contaminated with soil, dirt, or refuse after being stockpiled, will not be put into the work unless the contaminating material has been removed from the stone prior to placement. In areas where stone is stockpiled for placement, the area shall have excess rock removed prior to completion of work. All rock and spalls greater than 75 mm in diameter shall be removed. Where rocks may have become buried due to soft ground or operation of the equipment, the rock shall be disposed of as directed. After the rock has been removed, the storage area shall be graded, dressed, and filled to return the ground surface as near as practical to the condition that existed prior to construction.

PART 3 EXECUTION

3.1 STONE PLACEMENT

The stone shall be placed in the longitudinal peaked stone dikes, stone tiebacks and transverse stone dikes by skip, grapple, hand, or other approved method, in such a manner as to produce a reasonably well graded mass of stone with the minimum practicable percentage of voids. Stone shall not be dropped from a height greater than 1 meter. A variation of 300 mm above or 150 mm below the specified deviation and 150 mm under or 300 mm over the specified crown width will be allowed provided these variations are gradual over a minimum distance of 3 meters measured along the dike's centerline. Bulldozing stone into excavated trenches will not be permitted. Stone delivered on-site shall be contained as specified in paragraph STONE.

3.2 TESTS

3.2.1 General

The Contractor shall perform gradation tests to assure compliance with contract requirements and shall maintain detailed records.

3.2.2 Reporting

Reporting shall be in accordance with paragraph GRADATION TEST.

3.2.3 Standard Test Method for Gradation of Riprap and Graded Stone

- a. Select a representative sample (Note No. 1), weigh and dump on hard stand.
- b. Select specific sizes (see example) on which to run "individual weight larger than" test. (See Note No. 2). Procedure is similar to the standard aggregate gradation test for "individual weight retained".
- c. Determine the largest size stone in the sample. (100 percent size)
- d. Separate by "size larger than" the selected weights, starting with the larger sizes. Use reference stones, with identified weights, for visual comparison in separating the obviously "larger than" stones. Stones that appear close to the specific weight must be individually weighed to determine size grouping. Weight each size group, either individually or cumulatively.
- e. Paragraph d above will result in "individual weight retained" figures. Calculate individual percent retained (heavier than) cumulative percent retained and cumulative percent passing (lighter than). Plot percent passing, along with the specification curve on ENG Form 4794-R.

NOTE NO. 1: Sample Selection: The most important part of the test and the least precise is the selection of a representative sample. No "standard" can be devised; larger quarry run stone is best sampled at the shot or stockpile by given direction to the loader; small graded stone is best sampled by random selection from the transporting vehicles. If possible, all parties should take part in the sample selection, and agree before the sample is run, that the sample is representative.

NOTE NO. 2: Selection of Size for Separation: It is quite possible and accurate to run a gradation using any convenient sizes for the separation, without reference to the specifications. After the test is plotted on a curve, then the gradation limits may be plotted. Overlapping gradations with this method are no problem. It is usually more convenient, however, to select points from the gradation limits, such as the minimum 50 percent size, the minimum 15 percent size, and one or two others, as separation points.

F O R

E X A M P L E

O N L Y

EXAMPLE GRADATION
SPECIFICATIONS

STONE WEIGHT IN KG	PERCENT LIGHTER BY WEIGHT
180-75	100
75-35	50
35-15	15

EXAMPLE WORKSHEET

STONE SIZE	INDIVIDUAL	INDIVIDUAL	CUMULATIVE	PERCENT
KG	WT. RETAINED	PERCENT RETAINED	RETAINED	PASSING
180	0	0	0	100
75	4,354	30	30	70
35	5,080	35	65	35
15	3,629	25	90	10
-15	1,451	10	100	-
TOTAL	14,514 kg			

NOTE: Largest stone 114 kg

--End of Section--

STONE SOURCES

LAT/LONG (TESTED)	QUARRY LOCATION, ADDRESS AND TELEPHONE NUMBER	MAIN OFFICE ADDRESS AND TELEPHONE NUMBER
<u>ALABAMA</u>		
34/88 (1995)	Allsboro Quarry is located 8 miles east of intersection of MS Hwy 25 and Tishomingo County Rd 957 at Midway, MS, just across AL state line. Hoover Incorporated P.O. Box 613 Iuka, MS 38852 (205) 360-2400	Hoover Incorporated 1205 Bridgestone Parkway P.O. Box 17000 LaVergne, TN 37086-17000 (615) 793-2600
34/87 (1995)	Cherokee Quarry is located 3 miles east of Cherokee, AL on old Hwy 72.	Vulcan Materials Co. P.O. Box 459 Cherokee, AL 35616 (205) 359-6404
<u>ARKANSAS</u>		
34/92 (1997)	Granite Mountain Quarry #1 is located on east side of Hwy 65 and just north of Dixie Road.	McGeorge Corporation P.O. Box 138 Sweet Home, AR 72164 (501) 490-1535
36/91 (1995)	Valley Stone Quarry is located 4.5 miles northwest of Black Rock, AR off U.S. Hwy 63.	Meridian Aggregates Co. P.O. Box 260 Black Rock, AR 72415 (501) 878-6201
34/94	Hatton Quarry is located 1 mile east of Hatton, AR	Meridian Aggregates Co. P.O. Box 1325 Mena, AR 71953 (501) 385-2301
34/95 (1996)	River Mountain Quarry is located approx. 5 miles northwest Delaware, AR, at Arkansas River 218.5.	Pine Bluff Sand and Gravel P.O. Box 7008 Pine Bluff, AR 71611-7008 (870) 534-7120
<u>KENTUCKY</u>		
37/87 (1996)	Cedar Bluff Quarry is located 3 miles south of Princeton, KY on KY Hwy 91. The Kentucky Stone Co. 10234 Hopkinsville Rd. Princeton, KY 42445 (502) 365-6881	The Kentucky Stone Co. P.O. Box 7529 Louisville, KY 40207 (502) 897-1731

STONE SOURCES

(Continued)

LAT/LONG (TESTED)	QUARRY LOCATION, ADDRESS AND TELEPHONE NUMBER	MAIN OFFICE ADDRESS AND TELEPHONE NUMBER
37/88 (1996)	Three Rivers Quarry is located 7 miles northeast of Smithland, KY, off Hwy 60 (Cumberland 830 Road)	Martin Marietta Aggregates Three Rivers Quarry Rd. Smithland, KY 42081 (502) 928-2141
37/88 (1996)	Gilbertsville Quarry is located on U.S. Hwy 62 "Between the Dams" Lake City, KY.	Vulcan Materials Co. Reed/BRT Operations 947 U.S. Hwy. 62 Grand Rivers, KY 42045 (502) 362-4265

MISSOURI

38/90 (1996)	Old Menefee Quarry is located 4 7 miles north of Bloomsdale, MO on I-55, take exit for State Rds. DD and OO and turn east and go 1 mile to Hwy 61 and continue straight thru intersection on Brickeys Rd. to quarry.	Brickeys Stone LLC P.O. Box 220 13588 Brickeys Rd. Bloomsdale, MO 63627 (573) 483-3475
37/89 (1995)	Gray's Point Quarry is located at MRM 46.2, above the mouth of the Ohio River.	Tower Rock Stone Co. P.O. Box 50 Columbia, IL 62236 (618) 281-4106
	Tower Rock Stone Co. P.O. Box 4248 Scott City, MO 63780 (573) 264-3800	
38/90 (1995)	Bussen Quarry is located 5 miles north of St. Genevieve, MO, MRM 127.6, above the mouth of the Ohio River.	Tower Rock Stone Co. P.O. Box 50 Columbia, IL 62236 (618) 281-4106
	Tower Rock Stone Co. P.O. Box 111 St. Genevieve, MO 63670 (573) 883-7415	

G R A D A T I O N T E S T D A T A S H E E T

Quarry _____ Type of Stone Tested _____

Date of Test _____ Testing Rate _____

T E S T R E P R E S E N T S

Contract No. _____ District _____ Tons _____

TOTAL		

G R A D A T I O N

Stone Size (lbs)	Weight Retained	Individual % Retained	Cumulative % Ret.	% Pass	Specification % Finer by wt
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Total Wt					

Remarks: _____

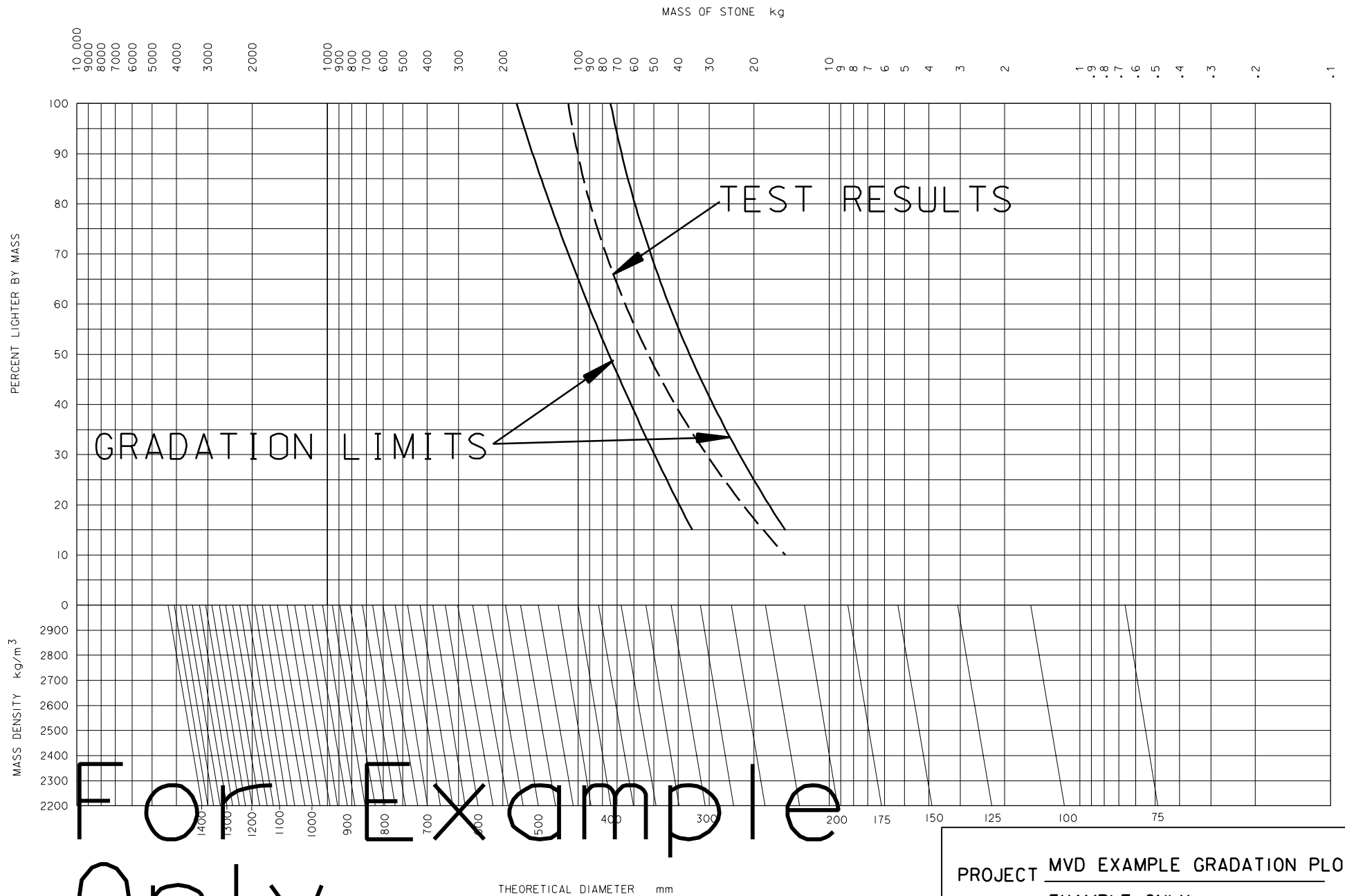
I certify that the above stone sample is representative of the total tonnage covered by this test report.

Contractor Representative _____

Government Representative _____

LMV FORM 602-R

-- End of Section --

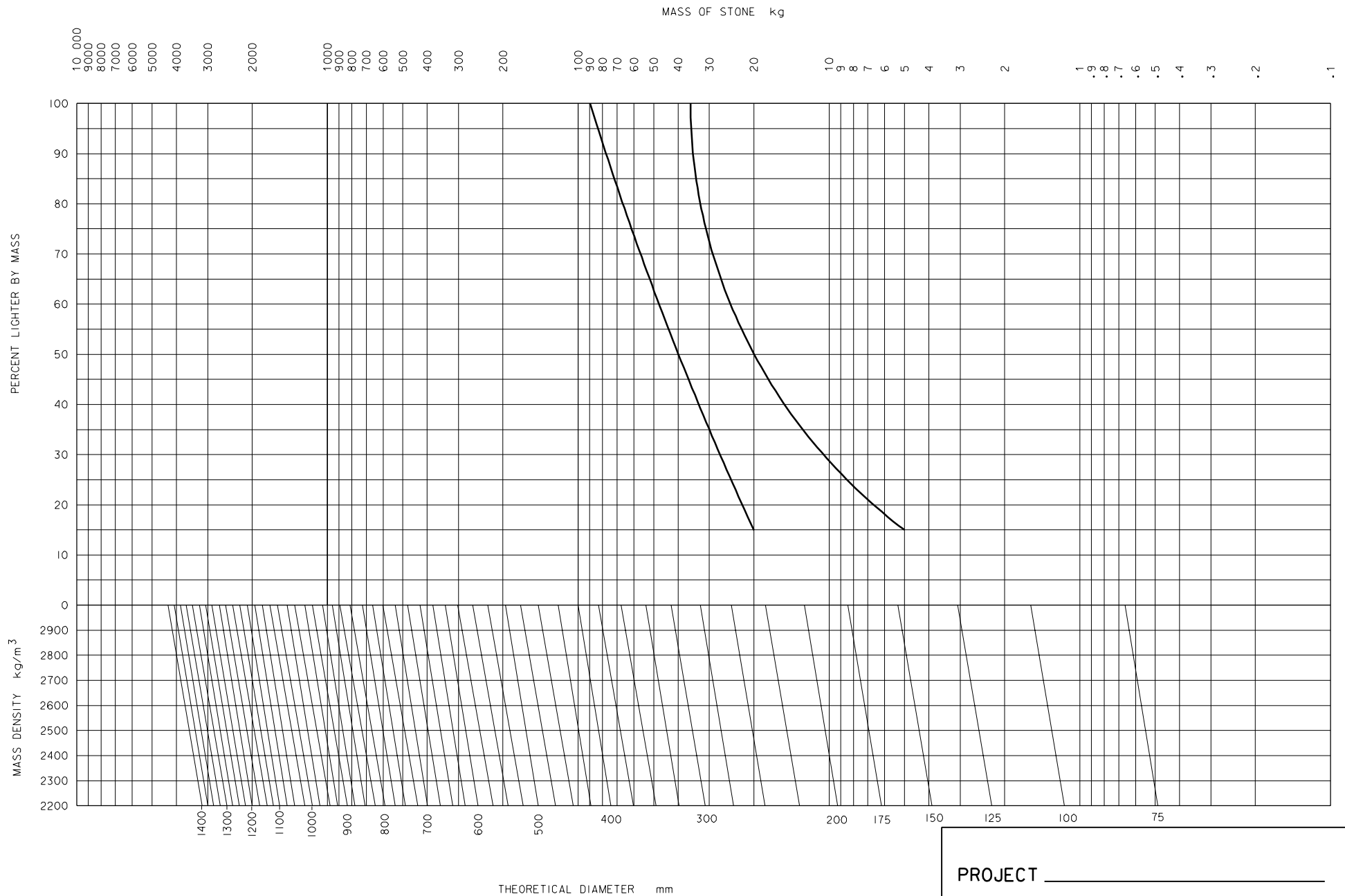


For Example
Only

MASS DENSITY OF STONE kg/m^3

PROJECT MVD EXAMPLE GRADATION PLOT
 AREA EXAMPLE ONLY
 DATE _____ BY _____

RIPRAP GRADATION CURVES



[R200]

"M90"

PROJECT _____

AREA _____

DATE _____ BY _____

RIPRAP GRADATION CURVES

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DIVISION 02 - SITE WORK

SECTION 02952

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SECTION 02952

EROSION CONTROL AND WILLOW PLANTING

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 977

(1991) Emulsified Asphalt

1.2 MEASUREMENT AND PAYMENT

1.2.1 Measurement

a. Erosion Control

No measurement will be made for erosion control.

b. Planting Willows

No measurement will be made for planting willow sprouts.

c. Mulching

No measurement will be made for mulching.

1.2.2 Payment

a. Erosion Control

Payment for erosion control will be made at the contract job price for "Erosion Control" which price and payment shall constitute full compensation for furnishing all plant, labor, materials, equipment, and performing all operations necessary for erosion control.

b. Mulching

No separate payment will be made for mulching. All costs for mulching will be included in the contract job price for "Erosion Control."

c. Planting Willow Sprouts

Payment for planting willow sprouts will be made at the contract job price for "Willow Planting", which price and payment shall constitute full compensation for furnishing all plant, labor, materials, equipment, and performing all operations necessary for furnishing, transporting, locating, and planting willow sprouts.

1.3 DESCRIPTION

The work covered by this section consists of furnishing all plant, labor, materials, equipment and transportation, and performing all operations necessary for erosion control and willow planting on areas that are specified herein and/or as shown on the drawings.

1.4 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-13 Certificates

Fertilizer; FIO. Seed; FIO. Mulch; FIO.

Statements signed by an official authorized to certify on behalf of the manufacturer of the product, attesting that the product meets specified requirements.

1.5 AREAS TO RECEIVE EROSION CONTROL

All disposal areas and all disturbed areas within the construction limits except areas to receive other types of surfacing shall receive erosion control as specified herein. Croplands that are within the construction limits will not receive erosion control if the landowner/farmer so requests and if approved by the Contracting Officer. Areas outside the construction limits or areas disturbed for field facilities or storage shall be protected as specified in paragraph EROSION CONTROL.

1.6 AREAS TO RECEIVE WILLOW PLANTING

Willow sprouts shall be placed as shown on the drawings. Willow sprouts shall be placed along the entire length of each longitudinal peaked stone dike including areas between stone tiebacks.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Fertilizer

Fertilizer shall be a balanced fertilizer, such as 13-13-13. The fertilizer may be delivered to the site in bags or other convenient containers or delivered in bulk. If delivered in bags or containers, the fertilizer shall be fully labeled in accordance with the applicable state fertilizer laws and shall bear the name, trade name or trademark, and warranty of the producer. The fertilizer shall meet the requirements for commercial fertilizer and shall contain a minimum of 5.60 grams of available nitrogen per square meter. Dry storage of fertilizer shall be required to retain its effectiveness.

2.1.2 Seed

Seed labeled in accordance with U. S. Department of Agriculture Rules and Regulations under the Federal Seed Act shall be furnished by the Contractor. Seed shall be furnished in sealed, standard containers unless written exception is granted. Seed that is wet or moldy or that has been

otherwise damaged in transit or storage will not be acceptable. All surfaces shall be seeded as follows: If seeding is done during the period 1 March through 30 September, surfaces shall be seeded by uniformly distributing a mixture of 22 kg Bahia grass, 22 kg Sericea Lespedeza, and 3.5 kg Bermuda Grass (hulled) seed per hectare over the area. If seeding is done during the period 1 October through 28 February, the seeding mixture shall consist of a uniform mixture of 10 kg of fescue and 27 kg of rye per acre. The seed shall have a minimum purity of 90 percent and a minimum germination rate of 80 percent.

2.1.3 Mulch

Grass hay shall be furnished and applied by the Contractor. Materials that contain noxious grass or weed seeds that might be detrimental to the turfing being established or to adjacent farmland will not be acceptable.

2.1.4 Asphalt Adhesive

Asphalt adhesive shall be emulsified asphalt conforming to ASTM D 977, Grade MS-2.

PART 3 EXECUTION

3.1 EROSION CONTROL

3.1.1 Preparation

The areas to receive erosion control shall be dressed by the cutting off of high points and the filling of depressions to the extent necessary to provide a reasonably smooth surface that can be readily traveled by a farm tractor pulling a rotary type mower.

3.1.2 Application

After dressing, the areas to receive erosion control shall be fertilized and seeded. Fertilizer shall be distributed uniformly at a rate of 225 kg per hectare over areas to be seeded and shall be incorporated into the soil to a depth of at least 100 mm by disking, harrowing, or other acceptable methods. After the dressing prescribed above has been completed and fertilizer incorporated, all surfaces shall be seeded at the rate specified in paragraph SEED. After the seed has been distributed the entire surface shall be compacted by two passes of a conventional tractor drawn cultipacker.

3.1.3 Mulching

Mulching shall be performed immediately after seeding. The mulch shall be a vegetative mulch consisting of grass hay. Mulch shall be applied uniformly on the soil surface at the rate of 3.4 tons (metric) (approximately 150 bales) per hectare by means of approved equipment suitable for such work. The mulch shall be anchored into the soil with a mulch crimper. The mulch crimping equipment shall have straight, matched, dull blades no more than 250 mm apart. Anchoring the mulch shall be performed along the contour of the ground surface.

3.2 WILLOW PLANTING

Willow sprouts may be planted at any time of the year. Willows shall be 450 mm to 600 mm in length, 25 mm minimum diameter and planted within 24

hours of cutting, and stored in water from the time of cutting until planting.

-- End of Section --